

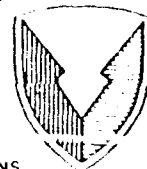
**COMMAND, CONTROL,  
COMMUNICATIONS, COMPUTERS  
AND INTELLIGENCE  
ELECTRONIC WARFARE (C4IEW)**

**PROJECT BOOK  
FISCAL YEAR 1994**



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HEADQUARTERS, US ARMY COMMUNICATIONS-ELECTRONICS COMMAND  
FORT MONMOUTH, NEW JERSEY 07703-5027



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The C4IEW Project Book is a reference book displaying a cross-section of U.S. Army major systems and equipment which are currently in development, production, or in the field. It reflects a coordinated effort between CECOM, PEO Command and Control Systems (CCS), PEO Communications Systems (COMM), and PEO Intelligence and Electronic Warfare (IEW). This edition is for use by industry and can be disseminated without restriction. A second version is for DoD components only and is For Official Use Only (FOUO).

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# C4IEW PROJECT BOOK

## FISCAL YEAR 1994

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**Message from the Commanding General  
US Army Communications-Electronics Command (CECOM)  
and Fort Monmouth, New Jersey**

Dear Reader:

I am pleased to present the Fiscal Year 1994 edition of the Command, Control, Communications, Computer and Intelligence Electronic Warfare (C4IEW) Project Book. The C4IEW Project Book displays a cross section of major systems and equipment which are currently in development, production, or in the field. This publication reflects a coordinated effort between CECOM, PEO Command and Control Systems, PEO Communications Systems, and PEO Intelligence and Electronic Warfare.

The C4IEW military community shares the critical mission of equipping, sustaining, and modernizing communications, electronics, and intelligence systems using superior technology in support of worldwide power projection. This mission supports a trained and ready Total Force capable of accomplishing decisive victory.

We must take the lead in meeting future challenges as we experience vast changes to our global environment and resources. The C4IEW Project Book serves to keep our audience abreast of our latest developments and initiatives toward this objective.

CECOM Bottom Line: THE SOLDIER.

Sincerely,



*Otto J. Guenther*

Otto J. Guenther  
Major General, US Army  
Commanding

The Fiscal Year 1994 edition of the C4IEW Project Book is presented in two formats. One is for use by DOD components only (critical technologies) and is For Official Use Only (FOUO). A second version is available for use by DOD components and their contractors and is available to the public.

The information found within is current at the time of publication (January 1994) and is subject to change. Requests for the FOUO version or comments/suggestions may be addressed as follows:

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PEO CCS

PM ADCCS

PM, ADCCS

AN/TSQ-73 MODIFICATION TO INTEGRATE PATRIOT, HAWK, KSA  
WEAPON SYSTEMS

PROJECT MANAGER: COL Daniel Montgomery, DSN 788-3441  
COMM 205/895-3441

PRODUCT MANAGER: LTC H.M. Carr, DSN 788-3517  
COMM 205/895-3517

PE & LINE #:

DESCRIPTION: The Security Assistance Management Directorate (SAMD) implemented a Foreign Military Sales (FMS) case (SR-B-JBV) with the Kingdom of Saudi Arabia (KSA) to procure the Patriot Missile System. The introduction of Patriot requires the necessary modifications to the Royal Saudi Arabian Air Defense Forces (RSADF) Command, Control, and Communications (C3) System to allow Patriot and subsequently HAWK Phase III to be integrated into the air defense environment. This effort will involve the modification of the KSA AN/TSQ-73 to allow the integration of Patriot, HAWK and Saudi Weapon Systems.

HISTORICAL BACKGROUND:

- o FMS Case Signed.
- o ADCCS Study effort.
- o Jul 93 - ADCCS Draft SOW and brief to LTC Sadek.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ADCCS STUDY EFFORT					!	-																						
DRAFT SOW/BRIEF KSA							!																					
SOW TRIP TO KSA							!																					

REQUIREMENTS DOCUMENT: FMS Case No. SR-B-JBV SAMD letter to PM ADCCS entitled "Air Defense Command and Control (ADCC) Interoperability Upgrade for the Royal Saudi Air Defense Force (RSADF)".

TYPE CLASSIFICATION:

THE KSA AN/TSQ-73 UPGRADE WILL PROVIDE THE RSADF INTEROPERABILITY WITH ALL OF THE RSADF WEAPON SYSTEMS.

PM, ADCCS

AIR DEFENSE INTERFACE EQUIPMENT (ADI)

PROJECT MANAGER: COL Daniel L. Montgomery, DSN 788-3441  
COMM 205/895-3441

PRODUCT MANAGER: LTC H.M. Carr, DSN 788-3517  
COMM 205/895-3517

PE & LINE #:

DESCRIPTION: The ADI equipment interfaces the analog voice and data that is generated/received at an air defense brigade or battalion tactical system and transmit the information to another system over the Mobile Subscriber Equipment (MSE) network. Similar equipment is used at the Air Force CRC to provide a joint interface. The system was developed by PM ADCCS, and used a contractual vehicle provided by PM, JTACS (formerly PM, MSE) with the MSE prime contractor, GTE. The ADI system is composed of an Analog/Digital Converter (ADC), an ADI Operator Interface (ADIOI), and - when required - a Secure Line Termination Unit (SLTU). All devices are bi-directional, making the interface a duplex communication link. The ADC converts nine channels of digital signals from MSE to analog signals used by the air defense systems. The ADIOI controls the connections to the MSE network. Functions include affiliation, Built in Test, and choice of voice/data connectivity. The SLTU multiplexes the nine channels into one signal flow and encrypts this signal. When an SLTU is present, the system interfaces to the MSE transmitter/receiver [(Line of Sight (LOS))]. In the absence of the SLTU, a MSE Small Extension Node (SEN) performs the SLTU function and at the same time carries many of the voice signals required at either air defense echelon.

HISTORICAL BACKGROUND:

Jun 91 - Requirement identified and ADCCS given the development lead.  
May 92 - First Unit Equipped in OCONUS.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ADI PROCUREMENT AWARD							!																					
ADI TRAINING - CONUS								!																				
DELIVERY OR ADDITIONAL SYSTEMS										!																		
ADI TRAINING												!																
TRANSFER OF SYSTEMS TO HAWK NG																				!								

REQUIREMENTS DOCUMENT: The requirement was derived from each user system's continued requirement to interoperate with other systems as MSE was fielded. No other new functional capabilities were added.

TYPE CLASSIFICATION:

ALL U.S. SYSTEMS IN GERMANY ARE ADI EQUIPPED AND HAVE A PROVEN CAPABILITY TO COMMUNICATE OVER THE MSE NETWORK. CONTINUE EFFORT TO PROVIDE SYSTEMS TO CONUS AIR DEFENSE SYSTEMS.

PM, ADCCS

AIR DEFENSE STAFF PLANNING VAN

PROJECT MANAGER: COL Daniel L. Montgomery, DSN 788-3441  
COMM 205/895-3441

PRODUCT MANAGER: LTC H.M. Carr, DSN 788-3517  
COMM 205/895-3517

DESCRIPTION: The Air Defense Staff Planning Van (SPV) will consist of processors, displays, software, and communications equipment to meet the staff planning Force operations needs of FAAD, PATRIOT, and other High-to-Medium Altitude Air Defense (HIMAD) systems, using available ATCCS S/W and Common Army Hardware/Software (CHS). The Van will be a Standard Integrated Command Post System (SICPS) shelter.

HISTORICAL BACKGROUND:

Jul 93 - Inception of Idea.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
INCEPTION OF IDEA				!																								
T&M CONTRACT AWARD				!																								
101ST AIRBORNE FIELDING								!																				
11TH BDE FIELDING								!																				

REQUIREMENTS DOCUMENT: PATRIOT PAC III ORD, ADTOC UFD.

TYPE CLASSIFICATION:

THE AIR DEFENSE STAFF PLANNING VAN WILL PROVIDE S1/S4 CAPABILITIES AT BDE AND BELOW

PM, ADCCS

FORWARD AREA AIR DEFENSE, COMMAND, CONTROL, AND INTELLIGENCE  
(FAADC2I)

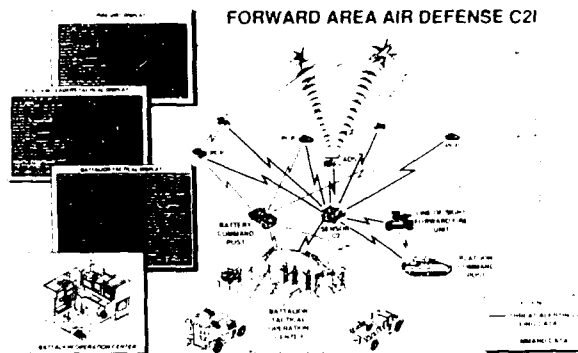
PROJECT MANAGER: COL Daniel Montgomery, DSN 788-3441  
COMM 205/895-3441

PRODUCT MANAGER: LTC Raymond Zegley, DSN 788-4309  
COMM 205/895-4309

PE & LINE #: 64741.0126

DESCRIPTION: The FAADC2I system consists of processor and displays, software and communications equipment to meet the Command and Control (C2) and targeting needs of FAADS battalions and separate batteries. This system will also fulfill the functional requirements of the air defense artillery component of the Army Tactical Command and Control System (ATCCS), and will interoperate with joint and allied High-to-Medium Altitude Air Defense (HIMAD) C2 systems.

The FAADC2I system consists of a C2 component (software) that integrates, processes and distributes aerial target information gathered from Ground-Based (GBS) and other Sensors, Identification Friend-or-Foe (IFF), Positive Hostile Identification (PHID) and Noncooperative Target Recognition (NCTR) devices. FAAD C2I will be used to integrate the division air defense fight to ensure freedom of maneuver by divisional forces and protection of critical C2, fire support, and sustaining elements of the air/land battle. FAADC2I is an interactive processor-to-processor automated system replacing the man-to-man manual one-way system.



HISTORICAL BACKGROUND:

Mar 85 - Short Range Air Defense Command Control (SHORADC2) presented.  
Jan 86 - SHORAD C2 becomes subsystem of FAAD. System redesignated FAADC2I.  
Jul 86 - Milestone II full scale development of system software.  
Jan 91 - Program Restructured for Light Special Division (V3).

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
BLOCK I DT	!																											
BLOCK I FDT&E	!																											
BLOCK I LUT	!																											
PEO CCS IPR (LRIP f/BLK I)		!																										
BLOCK I FUE			!																									
BLOCK II FDT&E/DT					!																							
BLOCK II IOT&E						!																						
BLOCK II MDR II (FSP)							!																					
BLOCK II FUE								!																				

REQUIREMENTS DOCUMENT: ROC approved Oct 85; O&O approved May 92, BLOCK I: V3

TYPE CLASSIFICATION: Low Rate Production May 93.

FAADC2 PROVIDES NEAR REAL TIME TARGETING AND C2 INFORMATION, ACCURATE AND TIMELY IDENTIFICATION OF TARGETS, ALERTING OF FAAD AND FORCE ELEMENTS, CUEING OF FAAD WEAPONS, AND INTEROPERABILITY WITH ALLIED AND JOINT ADC2 SYSTEMS.

PM, ADDCS

JOINT TADIL A DISTRIBUTION SYSTEM (JTADS)

PROJECT MANAGER: COL Daniel L. Montgomery, DSN 788-3441  
COMM 205/894-3441

PRODUCT MANAGER: LTC H.M. Carr, DSN 788-3517  
COMM 205/894-3517

PE & LINE #:

DESCRIPTION: The basic JTADS system receives TADIL A HF data, converts it to either TADIL B or ATDL-1, and, using modems, sends the data to an Army Air Defense Artillery system over a hard wire connection. Current software capabilities have been expanded to accomplish the following:

- 1) Provide TADIL A duplex capability.
- 2) Add a second TADIL A receiver to permit over the air frequency adjustments.
- 3) Provide UHF duplex radios for TADIL A and satellite communication.
- 4) Provide multiple TADIL B and ATDL-1 ports.
- 5) Accept and forward TIBS and TRAP data from a CTT.
- 6) Accept data from multiple radar sources.
- 7) Correlate all the surveillance data to provide a single air picture.
- 8) Preliminary versions available to receive the FAAD Data Link (FDL) and the Patriot Digital Information Link (PADIL).
- 9) Capability to act as a command and information center. The system does not currently control weapon/missile fires.
- 10) Planning aid for communications and sensor placement including maps and areas of coverage.

HISTORICAL BACKGROUND:

3QFY89 - TADIL A capability demonstrated during Desert Shield.  
2QFY91 - TADIL A requirement generated for Desert Storm.  
3QFY91 - JTADS systems installed in Patriot for Desert Storm.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
CONTRACT AWARD JTADS UPGRADE									!																			
STANDARDIZATION OF CURRENT SYSTEMS									!																			
NEW SYSTEMS DELIVERY									!																			
REHOST S/W TO CHS									!																			

REQUIREMENTS DOCUMENT: Desert Storm - Required for joint interoperability. Operational Needs Statement - Joint TADIL A Distribution System (JTADS), May 93. ROCs for TADIL A capability included in Air Defense Systems (PATRIOT PAC 3, THAAD, FAAD C2I BLOCK 2).

TYPE CLASSIFICATION:

THE JTADS EFFORT WILL STANDARDIZE AND PRODUCE SUFFICIENT JTADS SYSTEMS TO MEET THE CURRENT ARMY NEED FOR TADIL A INTEROPERABILITY WITH JOINT AND ALLIED SYSTEMS.



PM, ADCCS

PROTOTYPE AIR DEFENSE COMMUNICATION SHELTER (PADCS)

PROJECT MANAGER: COL Daniel Montgomery, DSN 788-3441  
COMM 205/895-3441

PRODUCT MANAGER: LTC H.M. Carr, DSN 788-3517  
COMM 205/895-3517

PE & LINE #:

DESCRIPTION: The PADCS (TCC-65) shelter contains the Air Defense Interface (ADI) equipment with provisions for power and lighting for this system. It is mounted on a HMMWV for portability. The ADI equipment was originally designed to be placed on the ground between the air defense systems and the Mobile Subscriber Equipment (MSE) used for Army voice and data communication. During acceptance testing, the commander stated that this "throw on the ground" concept was unacceptable and his troops were to find a method of installing the hardware in a shelter. This effort was managed by PM, ADCCS personnel using the Redstone Arsenal Prototype Shop for fabrication with Patriot, HAWK, and user funding, under the direction of the 32nd AADCOM. Due to the downsizing of the Army, several of these shelters are now located within CONUS. Recently, the 11th Brigade requested that a Tactical Data Information Link (TADIL) A capability and patch panel be installed in the PADCS shelter. One JTADS system will be used for providing this capability in a demonstration to be conducted in Sep 93.

HISTORICAL BACKGROUND:

3QFY92 - User (32nd AADCOM) requirement identified.  
2QFY93 - Delivery of PADCS TO 32nd AADCOM.  
4QFY93 - Development of prototype including a JTADS capability.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
UPGRADE PADCS AND SHIP TO 11TH BRIGADE CENTRAL SHIELD EX								!																				
								!																				

REQUIREMENTS DOCUMENT: The 32nd AADCOM commander required the shelter for his troops. This was ordered during the user out-briefing of the user acceptance test.

TYPE CLASSIFICATION:

THE PADCS PROVIDES AIR DEFENSE THE CAPABILITY TO TRANSPORT, ACTIVATE, AND OPERATE ADI AND JTADS EQUIPMENT IN A SHELTERIZED ENVIRONMENT. THE PADCS, WITH ITS PATCH PANEL, GREATLY IMPROVES UNIT EMPLACEMENT TIMES.

PM, ADCCS

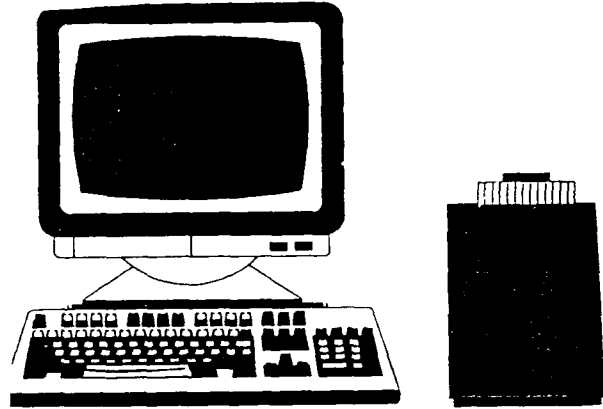
CHS II SURROGATE (SUN SPARC) RAPID AIR DEFENSE EVALUATION  
SYSTEM (RAIDES)

PROJECT MANAGER: COL Daniel Montgomery, DSN 788-3441  
COMM 205/895-3441

PRODUCT MANAGER: LTC H.M. Carr, DSN 788-3517  
COMM 205/895-3517

PE & LINE #:

DESCRIPTION: RAIDES operational demonstration software (S/W) provides the commander with the interim capability to automate tactical planning and Intelligence Preparation of the Battlefield (IPB) in the Air Defense Tactical Operations Center (ADTOC). RAIDES SW is a reverse-engineered product of the Air Force's Force Level Automated Planning System (FLAPS) SW. By reverse engineering the FLAPS SW, it became possible for the Air Defense Commander to study his own air defense design for weakness or gaps in coverage or lethality. PAWS/RAIDES thus allows the Air Defense commander to plan a cohesive and coordinated Air Defense system in minutes compared to a manual system that once took hours. RAIDES has been ported from the Portable All Source Analysis Work Station (PAWS) to a CHS II surrogate type hardware (HW) set (Sun Sparc). RAIDES now operates under UNIX O/S and has the ability to read map data (DTED and ADRG) directly from CD-ROM.



HISTORICAL BACKGROUND:

May 93 - Port to UNIX/Sun Sparc Complete.  
Jun 93 - Participated in Roving Sands.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
PORT TO CHS					!	!																						
COLLATERAL ENCLAVE INTERFACE									!																			
TERRAIN EVALUATION MODULE INSERT.									!																			
STAFF PLANNING VAN INSERTION													!															
FAAD TOC INSERTION													!															
PORT TO HP 735									!																			

REQUIREMENTS DOCUMENT: 32nd AADCOM Operational Needs Statement.

TYPE CLASSIFICATION:

RAIDES PROVIDES AIR DEFENSE THE CAPABILITY TO PERFORM TACTICAL PLANNING AND ENCOMPASSES THE PLANS ASSOCIATED WITH SENSOR COVERAGE, WEAPONS COVERAGE/LETHALITY AND PERFORMS TERRAIN ANALYSIS.

PM ASAS

## PM, ASAS

### ALL SOURCE ANALYSIS SYSTEM (ASAS)

PROJECT MANAGER: COL Richard Johnson, COMM 703/285-8110

PE & LINE #: 64321A (ASAS) D926 - All Source Analysis  
Engineering Sys Development  
DB19 ASAS Block Improvement.  
Procurement Annex Line Item Data 2035A-KA4400  
ASAS - TIARA

DESCRIPTION: The ASAS is an automated tactical intelligence system to be fielded to units organic to Corps, Division and Echelons Above Corps. The system is grouped into military intelligence processing enclaves at the using units to provide an interactive capability to perform intelligence processing, systems operation, and communications processing and interfacing. ASAS capability is also crucial for information exchange among the Battlefield Functional Areas of the ATCCS, other services, allied forces, and theater and national intelligence resources. ASAS provides an all source intelligence fusion network used to generate timely, accurate, and comprehensive understanding of enemy deployments, capabilities, vulnerabilities and potential courses of action.

The ASAS acquisition program has been divided into three distinct, time-phased blocks, with each succeeding block building upon and expanding the capabilities and functionalities developed and produced in previous blocks. ASAS Project Office will complete procurement and materiel release for Block I systems in FY93, with fielding to priority units. Also in FY93, the ASAS program manager will award the Block II development contract to build upon the Block I system to include conversion to the ATCCS Common Hardware/Software open architecture. ASAS will initiate production of the Block II CHS system in FY98. The Block III software development effort begins in FY97. FUE occurs in Oct 99, with an IOC of Dec 99.

### HISTORICAL BACKGROUND:

Feb 87 - Limited Production, Urgent contracts awarded.  
Mar 90 - LCC-Phase II contract award.  
Dec 91 - V2 software accredited.  
Jan 92 - Block I Log Demo completed; Block II RFP released.  
Sep 92 - IOT&E  
Jul 93 - ASARC approved fielding of Block I

### EVENT SCHEDULE:

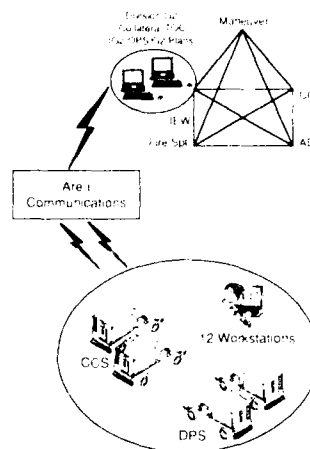
FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1				1				1				1				1				1			
BLOCK I																												
ASARC PROGRAM REVIEW (MATERIEL RELEASE)																												
BLOCK FIELDINGS																												
BLOCK II/III																												
DAB PROGRAM REVIEW																												
BLOCK II RTE CONTRACT AWARD																												
IOT&E																												
MILESTONE III																												
PRODUCTION AWARD																												

REQUIREMENTS DOCUMENT: ROC was approved Jun 86; Phased ROC validated by JROC 2: Nov 91. ORD approved by HQDA, DCSOPS on 3 Aug 93.

TYPE CLASSIFICATION: Limited Procurement, Block I, 4QFY93.

ASAS PROVIDES ALL SOURCE CORRELATED INTELLIGENCE TO COMMANDERS AT DIVISION, CORPS AND ECHELONS ABOVE CORPS.

### **ALL SOURCE ANALYSIS SYSTEM BLOCK I**



PM AWIS

PM, AWIS

ARMY WORLDWIDE MILITARY COMMAND AND CONTROL SYSTEM (WWMCCS)  
INFORMATION SYSTEM (AWIS)

PROJECT MANAGER: Mr. James H. Bray, Jr DSN 656-5687  
COMM 703/806-5687

PE & Line #:

DESCRIPTION: The Army World Wide Military Command and Control System (WWMCCS) Information System (AWIS) is a strategic Command and Control (C2) system. AWIS supports conventional military planning and execution as part of the Department of Defense (DoD) WWMCCS Information System (WIN). AWIS provides both Army-unique strategic level C2 software and the hardware infrastructure for the Joint Operations Planning and Execution System (JOPEX) and other joint service software that supports the Commanders-in-Chief (CINC) and Joint Chiefs of Staff (JCS). The software systems developed for AWIS dramatically improves the capability of the Department of the Army (DA) to analyze courses of action, develop and manage DA component scenarios supporting JCS war plans, and ensures that the DA plan is feasible. The software provides status reporting, mobilization, deployment, employment, and sustainment support to DA forces supporting conventional joint military operations. AWIS complies with the Congressional mandate to modernize the WWMCCS system for C2. AWIS support 9 host sites: FORSCOM, HQDA, USARPAC, AMC-SIMA, EUCOM, MTMC, USAREUR, SOUTHCOM, and AWC. AWIS provides the integrated software, hardware, communications, facilities, and other C2 complex improvements at the Echelons Above Corps (EAC) that support peacetime, crisis, and wartime monitoring, mobilization, deployment, employment, and sustainment of U.S. forces in a global environment.

HISTORICAL BACKGROUND:

Feb 86 - Milestone II - Definition/Design  
Sep 87 - MAISRC IPR.  
Mar 90 - MAISRC IPR.  
Feb 93 - MAISRC IPR  
Jul 93 - FORSCOM Site Acceptance Test Completed

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
HARDWARE FIELDING																												
MOBILIZATION SW DEVELOPMENT																												
ASORTS SW DEVELOPMENT																												
LOGISTICS SW DEVELOPMENT																												
OPERATIONS SW DEVELOPMENT																												
TRANSPORTATION SW DEVELOPMENT																												
PERSONNEL SW DEVELOPMENT																												
FORCE PLANNING SW DEVELOPMENT																												

REQUIREMENTS DOCUMENT: JOPEX ROC approved Jul 83; WWMCCS ADP Concept of Operations and General Requirements approved Jul 83. AWIS Mission Needs Statement ODCSOPS approved May 93.

TYPE CLASSIFICATION:

AWIS SUPPORTS THE INFORMATION COLLECTION, PROCESSING, DISTRIBUTION, DISPLAY SYSTEMS AND SW APPLICATIONS FOR THE WAM.

AWIS GENERIC LAN

WIN

DN  
6661

DPS 8/8000

DN8

DN8

CS1

UNITEC

DME

CS2000

802.3

CS 2000



WIS/WIS CUC/  
CENTEL/DOS PC



WIS/WIS CUC/  
CENTEL/DOS PC

PM CSSCS

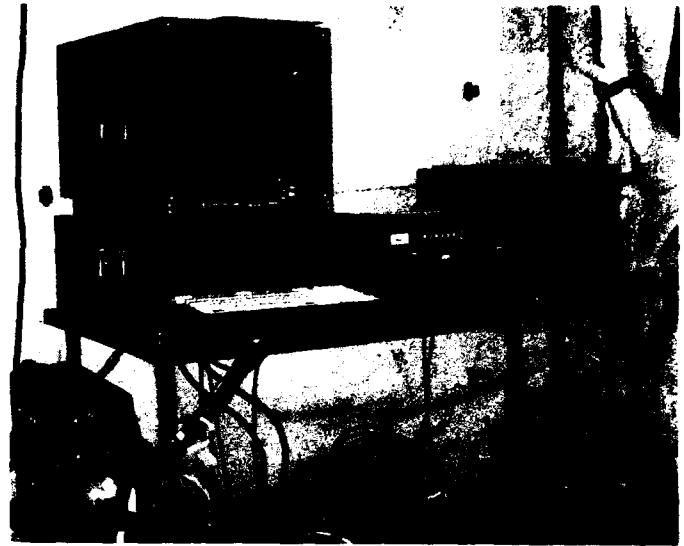
PM, CSSCS

COMBAT SERVICE SUPPORT CONTROL SYSTEM (CSSCS)

PROJECT MANAGER: COL J. R. Steverson, DSN 656-5312  
COMM 703/806-5312

PE & LINE #: 643805.0091

DESCRIPTION: The Combat Service Support Control System (CSSCS) is a computer software system designed to assist the CSS commander and his staff to rapidly collect, store, analyze, and disseminate CSS information to support the functions of command, control and resource management. CSS commanders and staff are currently participating in the force level planning and decision-making processes through a manual effort of gathering, correlating, and analyzing volumes of technical data from the existing Standard Army Management Information Systems (STAMISs). The CSSCS implementation automates the CSS node of the Army Tactical Command and Control System (ATCCS). CSSCS can extract summary information from the CSS STAMISs, accept input from other elements of the CSS community, and provide the CSS commander and staff with an analysis tool to evaluate CSS information with respect to the force level commander's tactical courses of actions. CSSCS also facilitates coordination with other ATCCS nodes. CSSCS will be organic to CSS units and headquarters staffs within the maneuver brigades, separate brigades, armored cavalry regiments, divisions, corps, and echelons above corps.



HISTORICAL BACKGROUND:

Apr 87 - PM CSSCS established.  
Oct 90 - "Blocked" ROC approved.  
Dec 90 - Milestone I/II ASARC.  
Feb 91 - Contract Award Version 3/4 SW; OSD C3I Committee Review.  
Oct 92 - Successful Early User Test and Experimentation.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
LIMITED USER TEST					!																							
IOTE						!																						
ASARC III								!																				

REQUIREMENTS DOCUMENT: O&O approved, Jun 84; ROC approved, Oct 90.

TYPE CLASSIFICATION: Scheduled for Nov 94.

CSSCS WILL PROVIDE TIMELY LOGISTICS, MEDICAL, FINANCIAL AND PERSONNEL PLANNING AND DECISION MAKING CAPABILITY TO THE COMMANDER.



PM CTIS

PM, CTIS

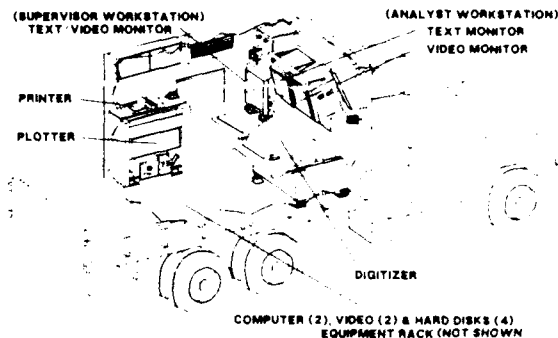
DIGITAL TOPOGRAPHIC SUPPORT SYSTEM (DTSS)

PROJECT MANAGER: Harold G. Britton, Jr., DSN 345-2854  
COMM 703/355-2854

PRODUCT MANAGER: David Thacker, DSN 345-2876  
COMM 703/355-2876

PE & LINE #: 654716.D579

DESCRIPTION: The DTSS is a tactical, computer-based system which will provide automated assistance to the Army's terrain analysis function. It will have the capability to receive, reformat, create, store, retrieve, update, manipulate, and densify digital terrain data to produce terrain analysis products which contribute to the Intelligence Preparation of the Battlefield and support other tactical systems with digital terrain data and products. The DTSS consists of two terrain analysis workstations, and associated equipment, housed in an S-280 shelter and mounted on an M-927 5-ton truck. The DTSS will interface with the five nodes of the Army Tactical Command and Control System (ATCCS): Intelligence and Electronic Warfare; Maneuver Control; Fire Support; Air Defense; and Combat Service Support.



HISTORICAL BACKGROUND

Jan 91 - Start Technical Test.  
Mar 92 - Finish Technical Test.  
Apr 92 - LRIP contract award.  
Jun 92 - Initial Operational Test and Evaluation (IOT&E).  
Apr 93 - Milestone III decision.  
Jul 93 - First LRIP Unit

EVENT SCHEDULE

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
MILESTONE III IPR			!																									
FIRST ARTICLE TEST				!																								
FIRST UNIT EQUIPPED					!																							
IOC								!																				
P3I BLOCK I												!																
P3I BLOCK II																			!									
P3I BLOCK III																												!

REQUIREMENTS DOCUMENT: DTSS ROC approved Oct 86, US Army TRADOC.

TYPE CLASSIFICATION: Standard, Apr 93.

DTSS IS A TACTICAL, COMPUTER-BASED TERRAIN ANALYSIS SYSTEM WHICH WILL ENABLE THE TERRAIN ANALYST TO SUPPORT THE BATTLEFIELD COMMANDER WITHIN THE COMMANDER'S DECISION CYCLE.

PM, CTIS

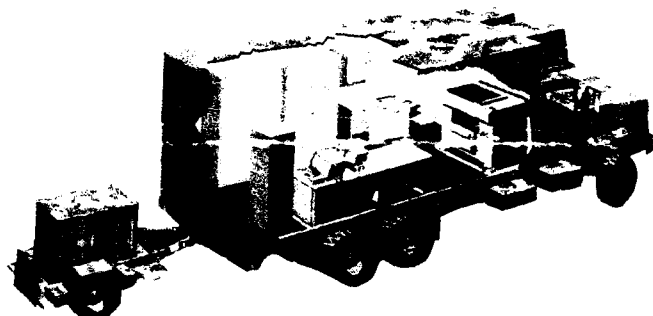
QUICK RESPONSE MULTICOLOR PRINTER (QRMP)

PROJECT MANAGER: Harold G. Britton, Jr., DSN 345-2854  
COMM 703/355-2854

PRODUCT MANAGER: William G. Foshay, DSN 345-2769  
COMM 703/355-2769

PE & LINE #: 654716.D579

DESCRIPTION: The QRMP will provide the capability for rapid, low volume production of large format (24" x 30"), multicolor topographic and terrain products and imagery. QRMP consists of modified commercial off-the-shelf (COTS) digital printing, scanning, and processing equipment. QRMP will be able to print hardcopy output from both digital and hardcopy originals/sources. Hardcopy originals can be scanned into a digital file which can be sent to the front-end workstation for merging with other digital files (Landsat, Arc Digitized Raster Graphics (ADRG), or previously scanned data). Text can also be added and then the entire merged file can be printed. The QRMP will have a digital and voice link with the Digital Topographic Support System (DTSS) for the receiving and printing of digital DTSS files, such as Tactical Decision Aids (TDAs). QRMP will supplement the current off-set printing capabilities of the Topographic Support Systems (TSSs).



HISTORICAL BACKGROUND:

Sep 87 - MS II IPR.  
Apr 88 - Full Scale Development contract award.  
Dec 90 - FSD contract termination.  
Mar 92 - Acquisition Strategy and Plan approved.  
Jan 93 - SE&I Contract Award

EVENT SCHEDULE

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
BLOCK I Development																												
Tailored Technical Test																												
IOT&E																												
Milestone III																												
Production																												
P3I Development																												
Testing																												
Milestone IV																												

REQUIREMENTS DOCUMENT: ROC approved Oct 86; O&O approved Jul 85.

TYPE CLASSIFICATION: Standard, Mar 86.

QRMP WILL PROVIDE RAPID, LOW VOLUME, LARGE FORMAT, FULL COLOR PRODUCTION OF TOPOGRAPHIC AND TERRAIN PRODUCTS AND IMAGERY, FROM BOTH HARDCOPY AND DIGITAL SOURCES/ORIGINALS.

PM CHS

PM, CHS

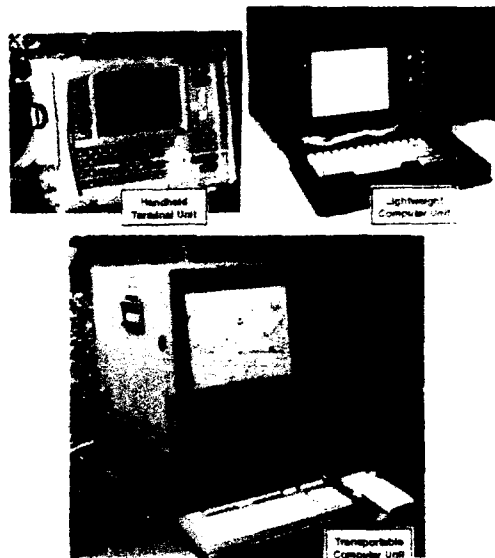
COMMON HARDWARE/SOFTWARE (CHS)

PROJECT MANAGER: COL Walter L. Olson, DSN 995-4679

COMM 908/544-4679

PE & LINE #: 6.48.18A X8W27P03

**DESCRIPTION:** The Project Manager, CHS provides common hardware/software for the Army Tactical Command and Control Systems (ATCCS) consisting of the five Battlefield Functional Areas Control Systems (BFACS); Forward Area Air Defense Command and Control System; Combat Service Support Control System; Maneuver Control System; Advanced Field Artillery Tactical Data System; and All Source Analysis System. Each BFACS Project Manager purchases CHS as building blocks and is responsible for fielding their complete system. The ATCCS emphasis is placed on minimizing the number of unique C2 hardware and software systems fielded by the Army. PM CHS is procuring NOI computers to include a Handheld Terminal Unit (HTU), Portable Computer Unit (PCU), Transportable Computer Unit (TCU), and compatible NOI peripheral devices. All but the HTU will be provided as a V1 version similar to commercial models or as a ruggedized V2 version. Procured commercial software includes operating systems, database management systems, word processing, spreadsheets, communications, training and maintenance diagnostic programs. A Programming Support Environment (PSE), will support BFACS application software development.



**LIGHTWEIGHT COMPUTER UNIT (LCU)** - The LCU is a lightweight computer system for use in applications requiring smaller size, less weight and limited graphic capabilities. The LCU is an NOI procurement similar to CHS 1 and interoperates with existing CHS systems.

**COMMON ATCCS SUPPORT SOFTWARE (CASS)** - The CASS is a collection of reusable software components which conform to an architectural framework based on state-of-the-art software reuse technology. Common applications will be developed and targeted to the CASS/CHS platform for use by all ATCCS systems which will reduce the overall ATCCS development and maintenance costs and improve interoperability.

**STANDARD INTEGRATED COMMAND POST SYSTEMS (SICPS)** - SICPS provides the ATCCS nodal PMs with standardized hardware platforms [tent command post (CP), shelter CP, track CP (soft-top) and 5-ton CP] to house their respective CHS hardware. These platforms provide power, environmental control, mounting hardware, lights and grounding kits. When populated with CHS and communications equipment, these systems provide the capability to operate a survivable and mobile command post.

**COMMAND AND CONTROL VEHICLE (C2V)** - PM CHS has the program to design a C4I mission module for the C2V which will be used by maneuver forces to conduct commander/staff operations in heavy close combat providing command and control from corps through maneuver battalion. The C2V mission module will consist of racks, wiring and harnesses to interface with existing ATCCS equipment and will adopt to future C4I technologies.

HISTORICAL BACKGROUND:

Jun 87 - Program provisionally established

Aug 88 - Awarded CHS contract 1.

May 91 - Awarded LCU contract; Initial delivery of V2 (LCU)

Aug 91 - Awarded SICPS Rigid Wall Shelter contract.

Oct 92 - CASS Release 0.4 delivery

Apr 93 - CHS-2 RFP Released

EVENT SCHEDULE:

FISCAL YEAR					93				94				95				96				97				98				99			
					QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<u>CHS:</u> CHS I 2-YR CONTRACT EXTENSION ENDS/LAST ORDER PLACED																																
CHS II (V1/V2) RFP RELEASE							!																									
CHS II (V1/V2) PRE-AWARD DEMO									!																							
CHS II (V1/V2) CONTRACT AWARD										!																						
CHS II (V1) PRODUCTION DELIVERY											!																					
CHS II (V2) PRODUCTION DELIVERY/HARDWARE QUALIFICATION												!																				
CHS II (V2) USER CHECK TEST													!																			
<u>SICPS:</u> RWS & M1068 OPERATIONAL TEST									!																							

**REQUIREMENTS DOCUMENT:** Original ROC, Dec 86. ATCCS updated ROC Sep 90 to include LCU. ATCCS updated ROC Sept 92 to include CHS-2.

**TYPE CLASSIFICATION:** CHS hardware, as class IX repair parts, will not be separately Type Classified.

CHS PROVIDES COMPATIBLE NOI COMPUTERS, SOFTWARE, PERIPHERALS, PROGRAMMING SUPPORT ENVIRONMENT, TECHNICAL ASSISTANCE AND COMMON LOGISTICS SUPPORT.

PM FATDS

PM, FATDS

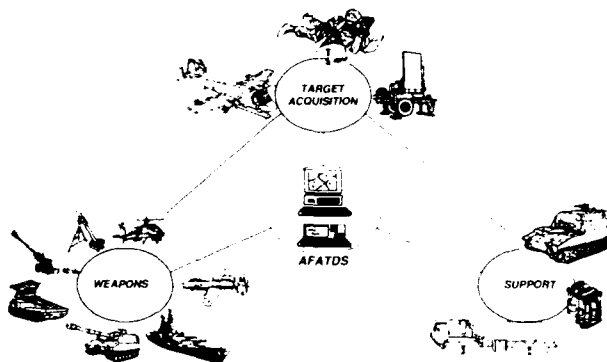
ADVANCED FIELD ARTILLERY TACTICAL DATA SYSTEM (AFATDS)

PROJECT OFFICER: LTC Stephen C. Moore, DSN 995-3328  
COMM 908/544-3328

PE & LINE #: 1B423.7260322

DESCRIPTION: The Advanced Field Artillery Tactical Data System (AFATDS) will broaden and modernize the US Army Fire Support Command, Control and Coordination (FSC3) System. As a Battle Management System, AFATDS will provide automated fire support in the Army Command and Control System (ACCS) architecture in support of close, rear and deep operations, and fire support assets to complement the commander's scheme of maneuver.

AFATDS is composed of a common suite of hardware and software employed in varying configurations at different operational facilities (or nodes) interconnected by tactical communications. Both hardware and software will be capable of being tailored to perform the fire support command, control and coordination requirements at any level of command.



HISTORICAL BACKGROUND:

Mar 81 - AFATDS MENS approved.  
May 84 - AFATDS Concept Exploration (software) contract awarded to Magnavox Corp.  
Jul 89 - ASARC II.  
Sep 89 - DAB.  
Apr 90 - Full Scale Development - Version 1 contract award.  
Oct 92 - Version 2 Option Exercised.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
VERSION 1 FULL SCALE DEVELOPMENT																												
AFATDS/FORCE DEVELOPMENT TEST & EXPERIMENTATION/ INITIAL OPERATION TEST & EVALUATION																												
ASARC-MS III																												
FIELD ON ACCS HARDWARE																												

REQUIREMENTS DOCUMENT: AFATDS LOA, dated 13 Dec 84; AFATDS revised ROC, 28 Jan 91; AFATDS ORD being staffed.

TYPE CLASSIFICATION: It is intended to TC AFATDS Standard.

AFATDS WILL BROADEN AND MODERNIZE THE US ARMY FIRE SUPPORT COMMAND, CONTROL AND COORDINATION (FSC3) SYSTEM.

PM, FATDS

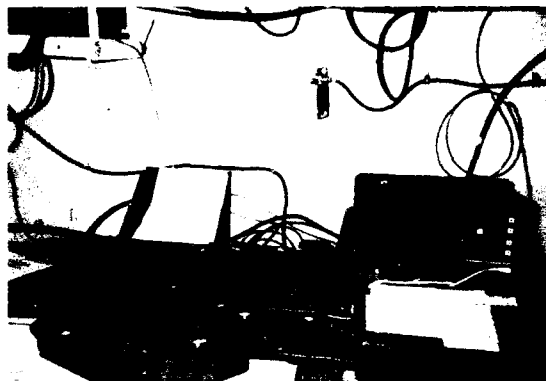
FIRE SUPPORT ADA CONVERSION (FSAC)

PROJECT OFFICER: LTC Stan Leja, DSN 995-3368  
COMM 908/544-3368

PE & LINE #: B78400

DESCRIPTION: The Fire Support Ada Conversion Program is replacing the aging Field Artillery fire direction Battery Computer Units (BCUs) with modern Army Tactical Command and Control System (ATCCS) Lightweight Computer Units (LCUs) (known as the AN/GYK-37(V)1). The BCU is used in the Battery Computer System (BCS) for cannon equipped artillery batteries and the Fire Direction System (FDS) for Multiple Launch Rocket Systems (MLRS) units.

The existing software, written in Symbolic Interpreter Routine, is being rewritten in the DoD standard Ada language. Initial fieldings of the BCS and FDS are being deployed with an emulator version software and will be upgraded with the Ada versions in FY94.



HISTORICAL BACKGROUND:

MLRS

BCS

Program Start	Feb 89	Feb 90
Critical Design Review	Aug 90	Jul 91
Formal Qualification Test	Oct 91	Jan 92
IOT & E	Mar 92	
Production Decision	Jul 92	Jul 92
FUE	Jan 93	Nov 92

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1				1				1				1				1				1			
MLRS: ADA																												
FIRST UNIT EQUIPMENT																												
FIELDING COMPLETED																												
BCS: ADA																												
IOT&E																												
FIRST UNIT EQUIPMENT																												
FIELDING COMPLETED																												

REQUIREMENTS DOCUMENT: ROC approved 12 Oct 90 (as part of Battery Computer Unit ADA Conversion).

TYPE CLASSIFICATION: Jul 92.

FSAC WAS ESTABLISHED TO PROVIDE FOCAL POINTS FOR THE MANAGEMENT OF BCS AND MLRS FDS.



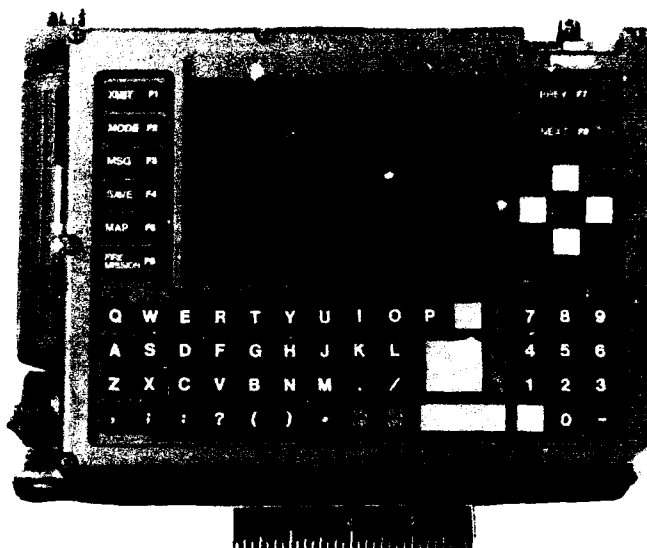
PM, FATDS

FORWARD ENTRY DEVICE (FED)

PROJECT OFFICER: LTC Stan Leja, DSN 995-3368  
COMM 908/544-3368

PE & LINE #: 5213

DESCRIPTION: The Forward Entry Device (FED) is a battlefield automation system with specific application in fire support within the Army Tactical Command and Control System (ATCCS). The FED is a remote data-entry device that provides digital message processing and data storage in the conduct and planning of fire support operations at maneuver platoon, company, battalion and brigade levels. The FED uses the Simplified Handheld Terminal Unit (SHTU), a CHS nondevelopmental item, and special fire support software applications. The FED has evolved into a mature system through three software versions: Forward Observer/Fire Support Team (FO/FIST), Forward Observer Command and Control (FOCC) and Meteorological Survey (MSR). FED FUE was in Jun 92. Fielding to all Light Infantry Divisions has been completed, however, due to size and weight considerations the FED was not fielded to the Forward Observer and the Aerial Observer. The availability of a lightweight FED (LFED) to meet this requirement is being explored. FED fielding to the Heavy Divisions is ongoing. A requirement to comply with MIL-STD-188-220 requires additional (version 2) software development and an upgrade to the current FED configuration. A Materiel Change is being initiated to support this effort.



HISTORICAL BACKGROUND:

Mar 91 - Milestone III approval; Production buy awarded.  
Apr 92 - Materiel Release Approval (limited)  
Jun 92 - FUE FED with FO/FIST software.  
Aug 92 - FOCC IOT&E; Full Materiel Release Approval.  
Jan 93 - MSR IOT&E.  
May 92 - FOCC Full Materiel Release.  
Jun 93 - FOCC FUE.  
Aug 93 - First FED National Guard Fielding; USAREUR fielding completed.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
SOFTWARE SUPPORT																												
TRANSITION TO CECOM																												
FUE VERSION 2																												
FIELDING																												

REQUIREMENTS DOCUMENT: Quantitative Materiel Requirement - TACFIRE, 1966; Army Tactical Command and Control Systems (H/W), 1986; Draft Annex E Fire Support ROC to ATCCS (S/W), 1990.

TYPE CLASSIFICATION: Standard, Mar 91.

FED WILL BE EMPLOYED TO COMPOSE, EDIT, TRANSMIT, RECEIVE, STORE AND DISPLAY MESSAGES USED IN THE EXECUTION AND PLANNING OF FIRE SUPPORT OPERATIONS AT MANEUVER PLATOON, COMPANY, BATTALION AND BRIGADE LEVELS.

FM, FATDS

INITIAL FIRE SUPPORT AUTOMATED SYSTEM (IFSAS)

PRODUCT MANAGER: LTC Stan Leja, DSN 995-3368  
COMM 908/544-3368

DESCRIPTION: The IFSAS is designed to provide limited automation of Fire Support Command and Control at battalion nodes and above. The system will give commanders the ability to do automated fire support planning and execution prior to the arrival of the AFATDS. The system will utilize the ATCCS CHS LCU and will be fielded to both active and NG/Reserve units to provide early automation.



HISTORICAL BACKGROUND:

Aug 91 - Program Approval.  
Dec 92-Jan 93 - System comparison contractor selection.  
Mar 93-May 93 - Pkg 10 Operational Test.  
Jul 93 - Milestone III Approval.  
Aug 93 - FUE NG.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Software Delivery		!																										
System Comparison		!																										
Contractor Determination		!																										
System Integration Test		!																										
Pkg 10 IOTE		!																										
Milestone III Approval		!																										
FUE		!																										
Remaining NG/AA Fieldings		!				!							!															

REQUIREMENTS DOCUMENT: DCSOPS MSG, JAN 93, IFSAS REQUIREMENTS DETERMINATION.

TYPE CLASSIFICATION: MS III APPROVAL - 12 JUL 93, TYPE CLASS - JUL 93

IFSAS PROVIDES AN INITIAL MODERN CAPABILITY TO BOTH THE ACTIVE ARMY (AA) AND NATIONAL GUARD (NG) FORCES.

PM OPTADS

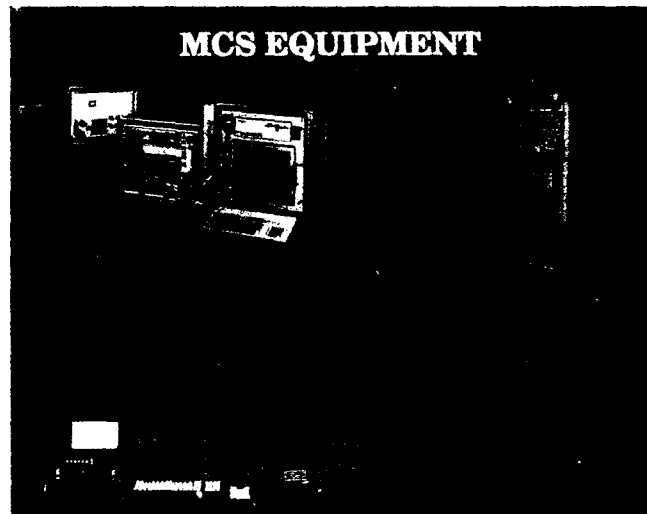
PM, OPTADS

MANEUVER CONTROL SYSTEM (MCS)

PROJECT OFFICER: Mr. Peter Johnson, DSN 992-6483  
COMM 908/532-6483

PE & LINE #: 1B423740.0484 SSN: BA-9300

DESCRIPTION: MCS is a tactical information and computer network utilizing a client server architecture with a distributed database to automate the command and control process. Field commanders and staffs are provided the capability to receive, access and process information, rapidly disseminate decisions and orders and react inside enemy's decision cycle. MCS computers operate at Corps through maneuver battalion. MCS provides the analysis tools to allow tactical planners the ability to shift and concentrate combat power in conjunction with other friendly forces. Tactical battlefield information which can be readily accessed and graphically displayed include friendly and enemy unit activity on an electronic map background, unit task organization (using standard symbology) and unit readiness status. MCS interfaces to standard Army tactical communications (secure/non-secure, wire and radio) such as the Mobile Subscriber Equipment (MSE) and the Combat Net Radio Systems. It interoperates with other Army, joint and combined C2 systems. MCS is system capable of running on different hardware platforms, such as Transportable and Lightweight Computer Units. Unique and commonly developed Ada software code executes on UNIX, with X-Windows and MOTIF for a graphical user interface. In the future, MCS will implement a lower echelon Handheld Terminal Unit (HTU) computer. The primary components of MCS are the software applications which directly support the commanders and staff. As a support structure for the application software, MCS will reuse the Common ATCCS Support Software.



HISTORICAL BACKGROUND:

Jun 87 - Awarded NDI contract.  
Jul 87 - Awarded system engineering and integration contract (MCS);  
Full production (TCT).  
Oct 87 - Awarded MCS software contract.  
Feb 93 - Rebaselined Program to be on Common Software foundation

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
MCS V.12.0 DEMONSTRATION									!																			
V.12.01 IOTE													!															
V 12.01 MS3 DAB															!													
V12.2 FOTE																				!								
V12.3 FOTE																										!		

REQUIREMENTS DOCUMENT: ORD 26 Oct 92.

TYPE CLASSIFICATION: TCP, AN/UYQ-43(V)1 and AC, AN/UYQ(V)2 type classification Standard, at IPR, Jun 86.

MCS IS AN AUTOMATED COMMAND AND CONTROL SYSTEM.

PD IMETS

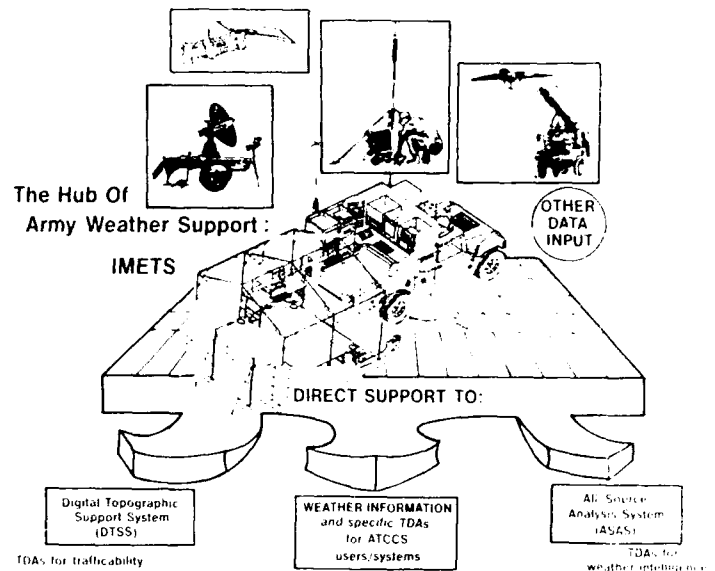
## PD, IMETS

### AN/TMQ-40, INTEGRATED METEOROLOGICAL SYSTEM (IMETS)

PROJECT MANAGER: Mr. Robert E. Northrup, DSN 258-5513  
COMM 505/678-5513

PE & LINE #: 64726.DD85

**DESCRIPTION:** IMETS is predominantly a Non-Developmental Item (NDI) that provides automation and communications support to USAF Weather Teams assigned to Army G2/G3 sections at echelons Brigade through EAC. IMETS receives, processes, and collates forecasts, observations, and climatological data to produce weather forecasts and timely and accurate products to meet Commanders' requirements. IMETS produces, displays and disseminates, over Army ATCCS, weather forecasts and tactical decision aids that compare the impact of current, projected, or hypothesized weather conditions on friendly and enemy capabilities. IMETS workstations are ATCCS Common Hardware and are interoperable with ASAS, DTSS and other ATCCS BFAs over tactical and area communications.



### HISTORICAL BACKGROUND:

Apr 89 - Proof-of-Concept system completed.  
Nov 89 - Technology transitioned to PMO Joint Tactical Fusion.  
Oct 91 - Engineering & Manufacturing Development started.  
Feb 92 - MS I/II approved.  
Aug 92 - Integration contract for 3 EMD systems awarded.

### EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QIR																											
3 EMD SYSTEMS																												
FQT																												
DT																												
EUTE																												
MS III-A																												
LRIP BUILD																												
IOTE																												
MS III																												

**REQUIREMENTS DOCUMENT:** ROC approved Mar 91; O&O approved Dec 86.

**TYPE CLASSIFICATION:** Standard, Aug 94.

IMETS IS A MOBILE, TACTICAL AUTOMATED WEATHER DATA RECEIVING, PROCESSING, AND DISSEMINATION SYSTEM TO PROVIDE TIMELY WEATHER AND ENVIRONMENTAL EFFECTS, FORECASTS AND DECISION AIDS.

PEO COMM

PM ADDS



PM, ADDS

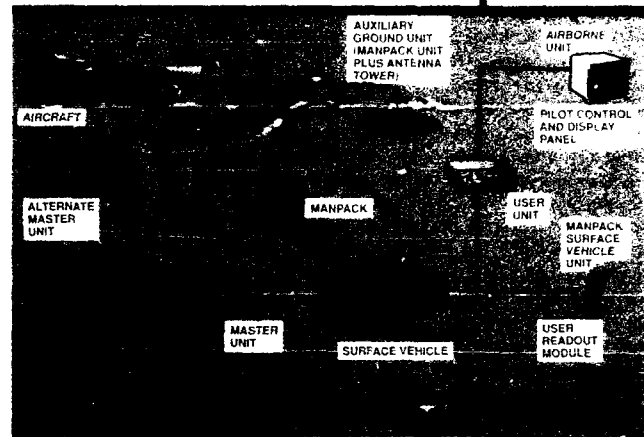
AN/TSQ-129, POSITION LOCATION REPORTING SYSTEM (PLRS)

PRODUCT MANAGER: LT COL Robert Wolf (USMC) DSN 995-2852  
COMM 908/544-2852

PE & LINE #:

DESCRIPTION: The PLRS is a Command and Control aide that provides automatic, real-time position reporting in a division's area of responsibility. The system employs a Master Station and an Alternate Master Station for 100% backup to insure system survivability and continuity of operations during displacements. The Air Transportable Master Station provides computer controlled network management and continuously updates the position of deployed User Units in manpack, vehicle and airborne configurations. PLRS direct support maintenance will be aided through the use of special TMDE - the PLRS Test Set. PLRS equipped units can obtain their own position, range and bearing relative to other units or locations. PLRS equipped units also can establish aircraft corridor guidance and provide an alarm when entering a pre-designated restricted area such as a minefield, and provides a free format abbreviated data message from other users. The system is crypto-secure and is highly resistant to jamming. The network, under Master Station management automatically utilizes surface airborne User Units as integral relays to achieve over-the-horizon transmission and to overcome close-in terrain obstructions to line-of-site communications.

PLRS MAJOR ELEMENTS CONSISTS OF  
MASTER UNITS AND USER UNITS



HISTORICAL BACKGROUND: PLRS IS A USMC PROGRAM MANAGED BY PM, ADDS.

Jun 73-Jun 76 - Advanced Development Contract.  
Aug 76-Aug 80 - Full Scale Development Contract.  
Jul 82 - ASARC-III, Marine Corps approved PLRS for production.  
Jul 83-Jul 86 - Multi-year production contract award to HAC.  
Sep 91 - PLRS Communications Enhancement (PCE) contract awarded to HAC.  
May 92 - PLRS/EPLRS Control Station Downsize Contract Award to Unisys Corporation.

REQUIREMENTS DOCUMENT: Joint Service Operational Requirement (JSOR) approved 1976; JSOR update May 83.  
USMC Required Operational Capability for PLRS improvement program, 11 Jan 91.

TYPE CLASSIFICATION: Standard A as of 1 Sep 82 ASARC-III. To date 98% of NSNs have been received. All development line items numbers (ZLIN) have been converted to standard line item numbers.

PLRS PROVIDES TIMELY AND ACCURATE THREE DIMENSIONAL POSITIONING, LOCATION, AND REPORTING INFORMATION IN SUPPORT OF TACTICAL COMMANDERS.

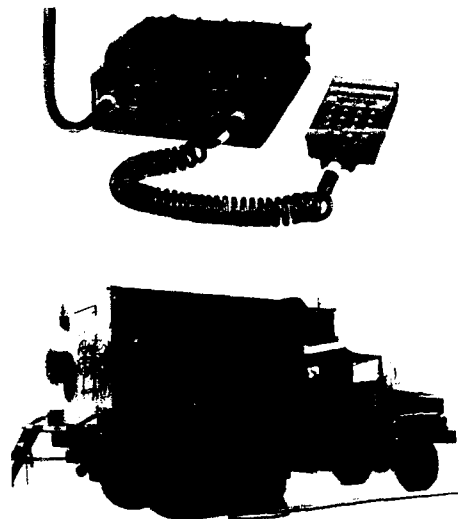
PM, ADDS

ENHANCED POSITION LOCATION REPORTING SYSTEM (EPLRS)

PRODUCT MANAGER: LTC S. Frith, DSN 995-3606  
COMM 908/544-3606

PE & LINE #: 63713.0370 BUI400

DESCRIPTION: EPLRS provides secure, jam-resistant, near real-time data communications support for the five Battlefield Functional Areas of the Army Tactical Command and Control System (ATCCS). EPLRS is a Time Division Multiple Access System using a frequency hopping, spread spectrum waveform in the UHF band. It incorporates internal COMSEC devices of the Thorton family and has an Over The Air Rekeying (OTAR) capability. EPLRS will use both the Army Data Distribution System version of the X.25 CCITT and MIL-STD-1553B protocols to interface with ATCCS and selected weapons systems like the ABRAMS tank. Additionally, EPLRS provides battlefield situational awareness to both the user and to their higher headquarters. This information greatly enhances the command and control of tactical units by providing commanders with the location of friendly units, a dynamic representation of the Forward Line of Troops and abbreviated SITREPs for conditions and identification of adjacent equipped units. The major components of EPLRS are the Net Control Station-EPLRS (NCS-E), EPLRS Radio Set with its user input/output devices, and the EPLRS Grid Reference Unit (EGRU). A typical army division will have four NCS-Es, 325-400 EPLRS Radio Sets, and 12 EGRUs. EPLRS deploys as a total system with NCS-Es controlling communities of EPLRS radio sets. EGRUs help with position location function and relaying of messages. EPLRS Radio Sets originate, relay and receive messages.



HISTORICAL BACKGROUND: EPLRS concept is a Preplanned Product Improvement (P3I) to the USA/USMC PLRS program. Technology insertions will be incorporated as part of the P3I process.

Sep 78 - System definition contract award to HAC.  
Jan 90 - P3I Phase C (LRIP) contract awarded to HAC.  
Jul 90 - LRIP Option 1 awarded to provide test hardware for TT/OT.  
Jan 92 - LRIP Option 2 awarded for corps level ATCCS testing.  
May 93 - LRIP Option 3 awarded for corps level ATCCS testing.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
TECHNICAL TEST III					!	!																						
OPERATIONAL TEST									!																			
FIRST UNIT EQUIPPED - CONDITIONAL									!																			

REQUIREMENT DOCUMENTS: PLRS/JTIDS Hybrid (EPLRS and JTIDS) Letter of Agreement approved Jun 82; ROC approved Sep 86; O&O revised Oct 86;

TYPE CLASSIFICATION: Standard anticipated for fielding.

EPLRS PROVIDES LOCATION AND SECURE, JAM-RESISTANT COMMUNICATIONS SUPPORT FOR THE FIVE BFAs OF ATCCS.

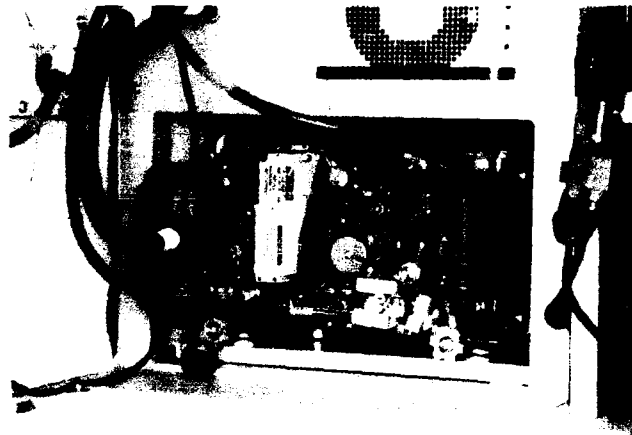
PM, ADDS

JOINT TACTICAL INFORMATION DISTRIBUTION SYSTEM (JTIDS)

PROJECT OFFICER: LTC Edward Siomacco, DPM, DSN 995-4362  
COMM 908/544-4362

PE & LINE #: 63713.D370 BU1400

DESCRIPTION: The Joint Tactical Information Distribution System (JTIDS) is designed to provide real-time, secure, jam-resistance data communications and navigational information to US (Army, Navy and Air Force) and NATO military forces. The Army JTIDS system consists of three equipment configurations: the Class 2M radio terminal; the Dedicated JTIDS Relay Unit (DJRU); and the Net Control Station-JTIDS (NCS-J). The Forward Area Air Defense (FAAD), High-to-Medium Altitude Air Defense (HIMAD), and Theater High Altitude Area Defense (THAAD) command and control systems are the primary tactical users. The Class 2M terminal is a computer-controlled, digital radio terminal which operates in the 960 MHz to 1215 MHz (L-Band) frequency range, and employs Time Division Multiple Access (TDMA) scheme for multi-user network connectivity. Anti-jam protection is provided by a combination of direct-sequence spread spectrum (32 chips/pulse) and frequency hopping (51 hopping frequencies at 3 MHz bandwidth). The Class 2M terminal has a transmit power of either 200 watts or 43 watts, and requires radio Line-Of-Sight (LOS) connectivity. The Class 2M terminal interfaces with ACCS CHS using the ADDS Interface version of X.25 CCITT protocol.



HISTORICAL BACKGROUND: Development of the JTIDS family of terminals is managed by the USAF Joint Project Office at Hanscom AFB. PM ADDS manages the development of the NCS-J/DJRU and the integration of JTIDS terminals into Army hosts.

Dec 85 - Award of Phase III contract to Singer Kearfott for development of Class 2M Terminal.  
Jun 89 - Awarded contract to Plessey Electronics System Corporation for Engineering Development Model software for NCS-J/DJRU.  
Mar 91 - Technical test of the Class 2M Terminal completed.  
Sep 92 - System Technical Test of NCSJ/DJRU completed.  
Jul 93 - Complete refurbishment of Class 2M (EDM) terminals.  
Sep 93 - FAADC2I First Unit Equipment (FUE) with Class 2M (EDM) terminals.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
(JTIDS BASELINE SCHEDULE)	QTR																											
SYSTEM TT	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
SYSTEM IOT&E	!																											
PROGRAM REVIEW (CLASS 2M)	!	!			!																							

REQUIREMENTS DOCUMENT: JTIDS JOR approved 23 Jan 81; JTIDS ROC approved Sep 86. JTIDS (Blocked) ORD approved Sep 93.

TYPE CLASSIFICATION: Army type classification IPR for the Class 2M Terminal will be held in May 94 following Limited User Test (LUT).

JTIDS PROVIDES (AS A MAJOR COMPONENT OF THE ARMY DATA DISTRIBUTION SYSTEM) HIGH CAPACITY SECURE, JAM-RESISTANT DIGITAL DATA COMMUNICATION.

PM GPS

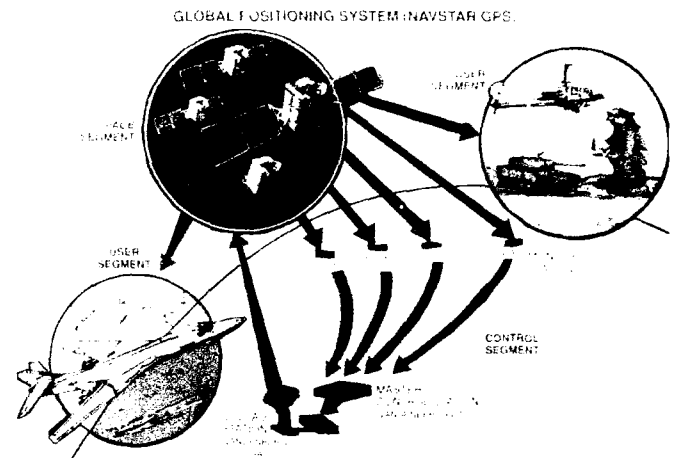
## PM, GPS

### GLOBAL POSITIONING SYSTEM (GPS)

PROJECT MANAGER: COL Sammie Young, DSN 992-6301  
COMM 908/532-6301

PE & LINE #: 1X564778.D168 SSN: K47800

**DESCRIPTION:** The GPS is a space based radio positioning/navigation (POS/NAV) system that will provide extremely accurate, three dimensional, common grid position, velocity and time of day information to users anywhere on or near the earth. The system consists of space, control, and user equipment segments. The USAF Space Command manages the operational satellites and ground control facilities. The user segment consists of those equipments that receive the satellite signals and compute position and time of day for the user. The GPS User Equipment (UE) family consists of ten different models meeting needs that range from the foot soldier to high performance military aircraft. The basic UE capability is the determination and display of position and time data; most models do additional navigational calculations such as waypoint/target range and azimuth. Greater host vehicle dynamics and the need for interfaces to other navigation, communication or control systems may require enhanced capabilities. The USAF is the executive service. Army PM GPS provides personnel to man the Joint Program Office; coordinate Army user requirements; perform Army planning, programming and budgeting; and plan and implement Army logistics and deployment for Army UE.



### HISTORICAL BACKGROUND:

- Apr 73 - Navy and Air Force satellite navigation efforts integrated.
- May 79 - ASARC-II/DSARC-II
- Jul 79 - Full scale competitive contract awards to Rockwell/Collins and Magnavox
- Dec 82 - First Manpack set delivered for test.
- Dec 91 - Restructure Army UE program to give priority to Ground Users; 1-Channel & 2-Channel Receivers procurement projects cancelled.
- Jan 92 - MS III DAB approved Full Rate Production of 5-Channel Air and Sea UE.
- Feb 92 - USAF PEO approves Precision Lightweight GPS Receiver (PLGR) acquisition strategy; PLGR draft Letter Request for technical proposal and bid samples released

### EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
MILESTONE III FOR MAGR/PRODUCTION OPTION																												
SATELLITE 3D CAPABILITY																												
PLGR IOT&E																												
MAGR PRODUCTION OPTION																												
EXERCISE PLGR OPTION																												
PEO IPR FOR PLGR TC STANDARD DECISION																												
PLGR PRODUCTION OPTION																												
PLGR PRODUCTION DELIVERY																												

**REQUIREMENTS DOCUMENTS:** NAVSTAR GPS Army UE ROC approved by HQ DA 22 Mar 79; ASARC IIIA approved, baseline Revised ROC to include PLGR and MGR approved 15 Apr 91.

**TYPE CLASSIFICATION:** MILSPEC Limited Production-Urg nt/Limited Production-Test (LPU/LPT) approved Feb 87; SLGR Limited Production-Urgent approved Aug 90; PLGR Generic approved Dec 91; Standard approved for 1, 2 & 5 Channel Army UE Dec 91; MAGR Standard approved Jan 92.

GPS PROVIDES EXTREMELY ACCURATE THREE DIMENSIONAL POSITION AND VELOCITY INFORMATION TO COMPATIBLY EQUIPPED USERS ANYWHERE ON OR NEAR THE EARTH.

PM JTACS

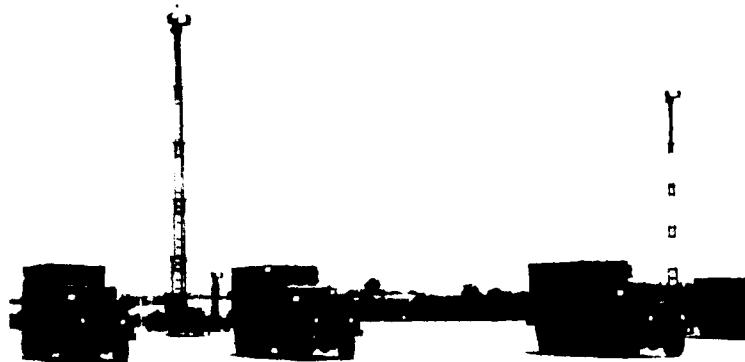
PM, JTACS

AB-1309/TRC MAST

PROJECT OFFICE: Mr. George Meyer, DSN 992-3525  
COMM 908/532-3525

PE & LINE #:

DESCRIPTION: The AB-1309/TRC Mast is a highly mobile, 120 foot collapsible tower which can support up to three AS-1425 antennas. The mast telescopes down to a height of 23 feet and is lowered to the horizontal position for transit. It is mounted on a tandem axle trailer which also carries two MEP-003A ten kilowatt diesel generators. AB-1309/TRC and ancillary hardware are towed by a 5-ton truck that transports a Digital Group Multiplexer (DGM) Shelter Assembly. This mobile configuration unit is eight feet wide, eight feet high and 30 feet long. AB-1309/TRC has aircraft transportability certification.



HISTORICAL BACKGROUND:

- o Testing (DT/OT) of Digital Transmission Assemblages in 1981 identified the need for: rapid antenna deployment and recovery; a height of 34 meters; C-130 transportability; and Modular Collective Protection Equipment (MCPE).
- o AB-1309 was designed to satisfy these requirements.
- o In 1986, the user community determined that the AB-1309 was not suitable as the primary antenna mast system for DGM assemblages and was replaced by the DAMP.
- o The AB-1309 was then designated as an ancillary antenna system to be deployed with each signal battalion at echelons above corps.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
TRANSITION																												

REQUIREMENTS DOCUMENT: MSG, HQDA, SAIS-PPS, 2019172 Aug 87, subject: AB-1309 requirement.

TYPE CLASSIFICATION: Limited Production, Urgent.

AB-1309/TRC MAST IS A HIGHLY MOBILE, COLLAPSIBLE TOWER WHICH CAN SUPPORT UP TO THREE AS-1425 ANTENNAS AND PROVIDES DGM SYSTEM POWER AND ANCILLARY ITEM TRANSPORT.

PM, JTACS

AB-1386/U, QUICK ERECT ANTENNA MAST (QEAM)

PROJECT OFFICER: Mr. Jorge Tersy, DSN 992-3525  
COMM 908/532-3525

PE & LINE #:

DESCRIPTION: The QEAM is designed to accommodate the AS-3166/GRC, AS-4292, AS-4225, A30045068 VHF antennas and a wide range of other antennas in other frequency bands. The system is man transportable weighing less than 100 lbs. The largest item weighs less than 42 lbs. The QEAM can be erected in winds up to 25 MPH, operate in winds of 60 MPH, and survive in winds of 80 MPH; in field mount configuration or installed on HMMWV, CUCV, M-577, M113 and on all approved communication shelters.

HISTORICAL BACKGROUND:

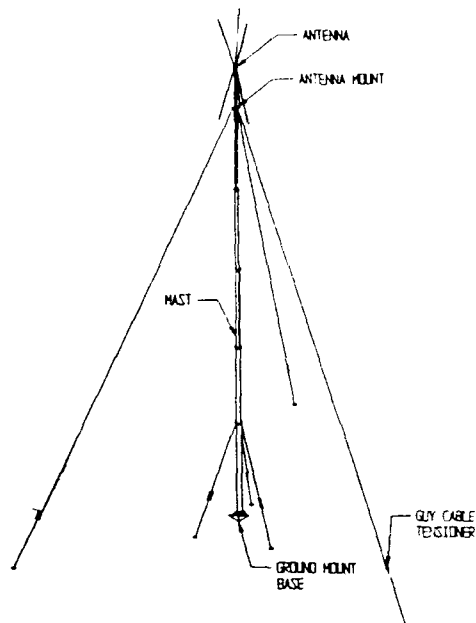
Apr 92 - Acquisition Plan Approved.  
Jun 92 - Solicitation Released.  
Feb 93 - Contract Awarded.  
Mar 93 - First Option Awarded.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
TRANSITION																												

REQUIREMENTS DOCUMENT: Operational & Organizational Plan, Jun 87; Required Operational Capability, Aug 89.

TYPE CLASSIFICATION: Generic, May 92; Standard, Apr 94.



THE QEAM IS DESIGNED TO ACCOMMODATE THE AS-3166/GRC, AS-4292, AS-4225, A30045068 VHF ANTENNAS AND A WIDE RANGE OF OTHER ANTENNAS IN OTHER FREQUENCY BANDS.



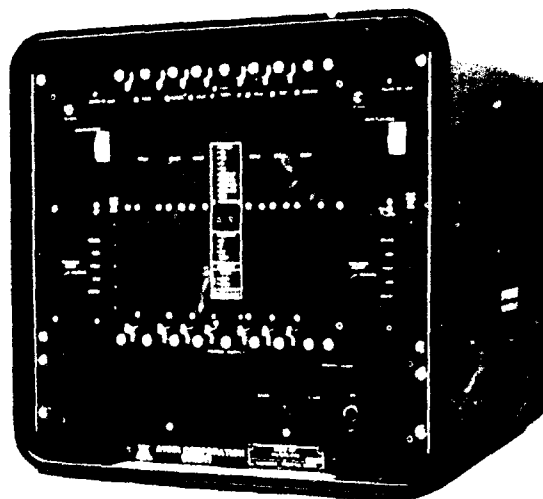
PM, JTACS

AN/GRC-222, RADIO SET

PROJECT OFFICER: Mr. Milan Schwartz, DSN 992-3525  
COMM 908/532-3525

PE & LINE #:

DESCRIPTION: The AN/GRC-222, Radio Set provides the Army with High Capacity Line-of-Sight (HI-CAP-LOS) and Short Range Wide Band Radio (SRWBR) capabilities while operating in the 4.4 to 5.0 gigahertz frequency range. These radios are deployed in the AN/TRC-175, Radio Terminal Assemblage located in the switching node at the "Bottom-of-the-Hill" and AN/TRC-138A, Repeater Assemblage located in the radio park at the "Top-of-the-Hill". The HI-CAP-LOS radio mode accommodates one group in the ATACS or TRI-TAC hierarchies of up to 144 channels at a group rate of 1024, 1152, 1536, 2048, 2304, 4096, or 4608 kilobits per second. The SRWBR mode of operation accommodates groups in the TRI-TAC hierarchy of up to 576 channels at master group rates of 9.36 or 18.72 megabits per second. The SRWBR is used to provide the link between a multichannel switching node and transmission facilities or "Top-of-the-Hill".



HISTORICAL BACKGROUND:

Mar 85 - Coordinated decision with Signal Center to replace AN/GRC-144(V)3 radio with NDI AN/GRC-222 radio.  
Sep 86 - Contract awarded to Aydin Corporation for 733 radios.  
Dec 88 - FAT completed.  
Mar 90 - Successful Reforger.  
Apr 90 - Final Logistics Support Concept (FLSC).  
Aug 92 - Peculiar Support Equipment (PSE) award.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Deliveries																												
Organic Maintenance																												
Transition																												

REQUIREMENTS DOCUMENT: HQDA Letter Requirement for DGM Assemblages, 19 Mar 76.

TYPE CLASSIFICATION: IPR, Jul 81, STD A for end items AN/TRC-138A/175.

AN/GRC-222, OPERATING IN THE 4.4 TO 5.0 GIGAHERTZ FREQUENCY RANGE PROVIDES THE ARMY WITH HI-CAP-LOS AND SRWBR CAPABILITIES AT ECHELONS ABOVE CORPS (EAC).

PM, JTACS

AN/TRC-138A AND AN/TRC-138B, RADIO REPEATER SETS

PROJECT OFFICER: Mr. Michael Hromoko, DSN 992-3525  
COMM 908/532-3525

PE & LINE #:

DESCRIPTION: The AN/TRC-138A (fullsize) and AN/TRC-138B (downsize) Radio Repeater Sets provide facilities terminating multi-channel radio and cable groups. The Radio Repeater Sets utilize three AN/GRC-222 radios, one AN/VRC-46 or AN/VRC-90 radio, and portions of the Digital Group Multiplexer (DGM) family of equipment. The DGM equipment which is being utilized is as follows: TD-1237(P)/H, MD-1026(P), Order Wire Control Unit C-10717/TRC, and MD-1024. The AN/GRC-222 also provides Short Range Wide Band Radio (SRWBR) for transmitting multiplexed groups from the radio park "Top-of-the-Hill" to the switching node "Bottom-of-the-Hill". It has the capability to terminate up to three systems and may be used for radio repeater, terminal, or SRWBR applications. The radio operates in the frequency range of 4.4 to 5.0 gigahertz. In the SRWBR mode it has a data rate of up to 18.72 megabits per second with a range of five miles. In the radio repeater mode it has a data rate of 4.608 megabits with a range of 25 miles. The AN/TRC-138A is mounted in an S-280C shelter and the AN/TRC-138B version is mounted in an S-749 shelter.



HISTORICAL BACKGROUND:

1980 - DT/OT-II.  
1982 - Army initiated production effort with TOAD.  
Feb 84 - TOAD First Article Tests (mechanical and electrical) completed.  
Oct 87 - DT&E completed. New production contract awarded to Laguna Industries.  
Jul 89 - Production contract (downsize) awarded to Laguna Industries.  
Mar 93 - Downsize Heavy HMMWV Variant Version Re-Packing Effort Initiated/Contract Modified.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1				1				1				1				1				1			
TRANSITION: FULLSIZE/DOWNSIZE																												
DOWNSIZE HMMWV																												

REQUIREMENTS DOCUMENT: HQDA Letter Requirement, 19 Mar 76.

TYPE CLASSIFICATION: Standard A approved Jul 81. Updated by Material Status Record change May 90.

AN/TRC-138A AND AN/TRC-138B RADIO REPEATER SETS PROVIDE FACILITIES FOR TERMINATING MULTICHANNEL RADIO/CABLE GROUPS FROM THE RADIO PARK "TOP-OF-THE-HILL" TO THE SWITCHING NODE "BOTTOM-OF-THE-HILL" FOR ECHELONS ABOVE CORPS SIGNAL UNITS.

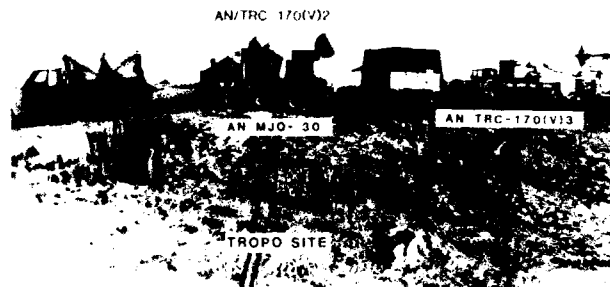
PM, JTACS

AN/TRC-170(V)2 AND AN/TRC-170(V)3, TROPOSCATTER RADIO  
TERMINAL (TROPO)

PROJECT LEADER: Mr. George Meyer, DSN 992-3474  
COMM 908/532-3474

PE & LINE #: 1X428010.D114

DESCRIPTION: The AN/TRC-170(V)2 and AN/TRC-170(V)3 are air and ground transportable troposcatter radio terminals. The terminals provide secure digital long haul radio trunking between major nodes of TRI-TAC/ATACS communication networks and interface with other TRI-TAC/ ATACS systems such as assemblages of Digital Group Multiplexer (DGM) equipment or various switching facilities. The terminals may be used in stand-alone applications as transmission links not associated with switching facilities. The terminals provide for the transmission and reception of digital voice and digital data over a nominal 150 mile path for the (V)2 radio and a nominal 100 mile path for the (V)3 radio by means of troposcatter. Line-of-Sight propagation may also be used in the 4.4 gigahertz to 5.0 gigahertz frequency range. The terminals provide for trunk group communications at switch selectable bit rates from 128 to 4608 kilobits per second in addition to orderwire traffic.



COMPOSED OF:

- (V)2 - M923 5-ton truck carries S-280 shelter towing M1061E1 5-ton trailer with two 30 kilowatt power units.
- M35A2 2-1/2-ton truck carries antennas on Low Profile Pallet towing M105A2 1/2-ton trailer with HFR radio.
- (V)3 - M1097 (Heavy HMMWV) carries S-250 shelter towing M116A2 3/4 ton trailer with Quick Reaction Antenna (QRA).
- M1097 carries 10KW power unit and HF radio towing PU-753/M 10KW power unit.

USED WITH: TRI-TAC/ATACS systems.

REPLACES: AN/TRC-132, 132A, 112, 121 and 80.

HISTORICAL BACKGROUND: AIR FORCE IS THE LEAD SERVICE FOR THIS PROGRAM.

- Jun 76 - Air Force Research and Development contract.
- Aug 80 - DT&E/IOT&E.
- Dec 86 - Completed FOT&E.
- May 87 - Competitive contract awarded.
- Sep 87 - First Unit Equipped.
- Dec 89 - Fourth Materiel Release.

REQUIREMENTS DOCUMENT: JOR SM 86-75, 10 Feb 75.

TYPE CLASSIFICATION: Limited production approved Jan 83; Standard approved 27 May 85.

TROPO PROVIDES SECURE TRANSMISSION AND RECEPTION OF TACTICAL MULTI-CHANNEL DIGITAL VOICE AND DATA BY MEANS OF TROPO MODE OF PROPAGATION IN THE 4.4 TO 5.0 GIGAHERTZ FREQUENCY BAND.

PM, JTACS

AN/TRC-173( )

PROJECT OFFICER: Mr. Michael Hromoko, DSN 992-3525  
COMM 908/532-3525

PE & LINE #:

**DESCRIPTION:** The AN/TRC-173( ) is used as an extension terminal at major nodes to provide up to 36 channels of digital trunk communications. AN/TRC-173( ) contains two complete communication systems housed in a shelter facility S-589( )/AN/TRC-173( ) which is either a modified S-280C or an S-749 (which is a downzoned S-280C) shelter. AN/TRC-173( ) is composed of two AN/GRC-103(V)4 radio sets, one AN/VRC-46 or AN/VRC-90, and portions of the Digital Group Multiplexer (DGM) family of equipment. The DGM equipment which is being utilized is as follows: MD-1026(P)/G, MD-1023(P)/G, MD-1065/G, MD-1234(P)/TTC, MD-1025/G, TD-1236/G and Orderwire Control Unit C-10716/TRC. COMSEC equipment which includes the KY-57 VINSON, KG-94 Trunk Encryption Device and KY-68 DSVT is also included as part of the assemblage. Each of the two communication systems in the AN/TRC-173( ) is capable of full duplex operation (simultaneous send and receive). Under normal operating conditions, one system in the AN/TRC-173( ) assemblage remains in standby condition in the event of malfunction. AN/GRC-103(V)4, Radio Set is used for operation in Line-of-Sight applications and has a frequency range of 1350 to 1850 megahertz with a transmission range of approximately 30 miles.



AN / TRC - 173 / A (WITH SB - 3865)

**HISTORICAL BACKGROUND:**

1980 - DT/OT-II  
1982 - Army initiated production efforts with TOAD.  
Feb 84 - TOAD First Article Tests (mechanical, electrical) completed.  
Aug 85 - New Production contract awarded to Laguna Industries Incorporated.  
Oct 87 - FOT&E completed; Awarded FY88 Production Option to Laguna Industries.  
Jul 89 - Awarded downsized Production contract to Laguna Industries.  
Mar 93 - Downsize Heavy HMMWV Variant Version Re-Packing Effort Initiated/Contract Modified.

**EVENT SCHEDULE:**

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
TRANSITION: FULLSIZE																												
DOWNSIZE																												
DOWNSIZE HMMWV																												

**REQUIREMENTS DOCUMENT:** HQDA Letter Requirement, 19 Mar 76.

**TYPE CLASSIFICATION:** Standard A approved Jul 81; Updated by Materiel Status Record change May 90.

AN/TRC-173( ) IS USED AS AN EXTENSION TERMINAL AT MAJOR NODES AND CONTAINS TWO LINE-OF-SIGHT TRANSMISSION SYSTEMS FOR ECHELONS ABOVE CORPS SIGNAL UNITS.

PM, JTACS

AN/TRC-174( ), RADIO REPEATER SET

PROJECT OFFICER: Mr. Michael Hromoko, DSN 992-3525  
COMM 908/532-3525

PE & LINE #:

DESCRIPTION: The AN/TRC-174( ) is used as an extension repeater at major nodes to provide up to 36 channels of digital trunk communications. AN/TRC-174( ) contains three complete communications systems housed in Shelter Facility S-590( )/TRC-174( ), which is either a modified S-280C or an S-749 (which is a downsize S-280C) shelter. AN/TRC-174( ) is composed of three AN/GRC-103(V)4 radio sets, one AN/VRC-46 or AN/VRC-90 radio, and portions of the Digital Group Multiplexer (DGM) family of equipment. The DGM equipment which is being utilized is as follows: MD-1026(P)/G, MD-1023(P)/G, MD-1065/G and Orderwire Control Unit C-10716/TRC. COMSEC equipment which includes the KY-57 VINSON and KY-68 DSVT is also included as part of the assemblage. Each of the three communication systems in the AN/TRC-174( ) is capable of full duplex operation (simultaneous send and receive). Under normal operating conditions, one system in the AN/TRC-174( ) assemblage remains in standby condition in the event of malfunction. Radio set AN/GRC-103(V)4 is used for operation in Line-of-Sight applications and has a frequency range of 1350 to 1850 megahertz with a transmission range of approximately 30 miles.



HISTORICAL BACKGROUND:

- 1980 - DT/OT-II.
- 1982 - Army initiated production efforts with TOAD.
- Feb 84 - TOAD First Article Tests (mechanical, electrical) complete.
- Aug 85 - New Production contract awarded to Laguna Industries Incorporated.
- Oct 87 - FOT&E Completed; FY88 Production option awarded to Laguna Industries.
- Aug 89 - Downsized Production contract awarded to Laguna Industries.
- Mar 93 - Downsized Heavy HMMWV Variant Version Re-Packing Effort Initiated/Contract Modified.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
TRANSITION: FULLSIZE																												
DOWNSIZE																												
DOWNSIZE HMMWV																												

REQUIREMENTS DOCUMENT: HQDA Letter Requirement, 19 Mar 76.

TYPE CLASSIFICATION: Standard A approved Jul 81 IPR; Updated by Material Status Record change May 90.

AN/TRC-174( ) IS USED AS AN EXTENSION REPEATER AT MAJOR NODES AND CONTAINS THREE LINE-OF-SIGHT TRANSMISSION SYSTEMS FOR ECHELONS ABOVE CORPS SIGNAL UNITS.

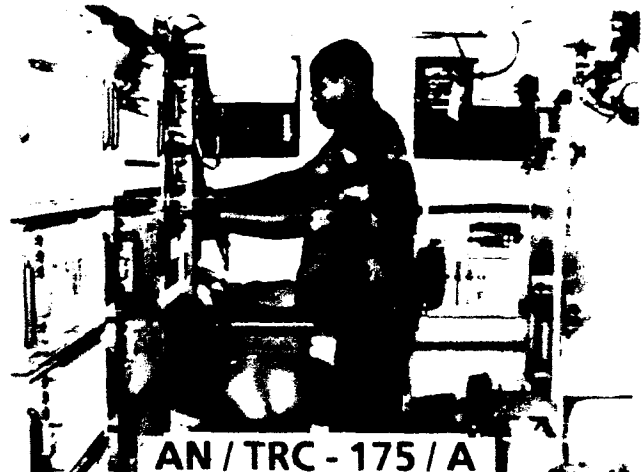
PM, JTACS

AN/TRC-175( )

PROJECT OFFICER: Mr. Michael Hromoko, DSN 992-3525  
COMM 908/532-3525

PE & LINE #:

DESCRIPTION: The AN/TRC-175( ) is used at major switching nodes to transmit/receive trunk groups with the associated radio park. AN/TRC-175( ) contains two complete communication systems housed in a shelter facility S-591( )/AN/TRC-175/A, which is either a modified S-280C or an S-749 (which is a downsized S-280C) shelter. AN/TRC-175( ) is composed of two AN/GRC-222 radio sets, one AN/VRC-46 or AN/VRC-90 radio, and portions of the DGM family of equipment. The DGM equipment which is being utilized is as follows: MD-1026(P)/G, MD-1024/G, TD-1237(P)/G and Orderwire Control Unit C-10/17/TRC. COMSEC equipment which includes the KY-57 VINSON and KY-68 DSVT is also included as part of the assemblage. Each of the two communication systems in the AN/TRC-175( ) is capable of full duplex operation (simultaneous send and receive). Radio Set AN/GRC-222 is used as a radio link to the AN/TRC-138A/138B located at the radio park and has a frequency range of 4.4 to 5.0 gigahertz with a transmission range of approximately five miles for the 18.72 megabits per second data rate and 25 miles for the 9.36 megabits per second data rate.



HISTORICAL BACKGROUND:

- 80 - DT/OT-II.
- 82 - Army initiated production efforts with TOAD.
- Feb 84 - TOAD First Article Tests (mechanical, electrical) completed.
- Aug 85 - New Production contract awarded to Laguna Industries.
- Oct 87 - FOT&E completed; FY88 Production option awarded to Laguna Industries.
- Jul 89 - Downsized Production contract awarded to Laguna Industries.
- Mar 93 - Downsized Heavy HMMWV Variant Version Re-Packing Effort Initiated/Contract Modified.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1				2				3				4				1				2			
TRANSITION: FULLSIZE																												
DOWNSIZE																												
DOWNSIZE HMMWV																												

REQUIREMENTS DOCUMENT: HQDA Letter Requirement, 19 Mar 76.

TYPE CLASSIFICATION: Standard A approved Jul 81; Updated by Material Status Record change May 90.

AN/TRC-175( ) IS A BOTTOM-OF-THE-HILL RADIO TERMINAL UTILIZED AT RADIO PARK TO TRANSMIT/RECEIVE TRUNK GROUPS AND CONTAINS TWO LINE-OF-SIGHT TRANSMISSION SYSTEMS FOR ECHELONS ABOVE CORPS SIGNAL UNITS.

PM, JTACS

AN/TTC-39, AN/TTC-39A, AN/TTC-39D, CIRCUIT SWITCH

PROJECT OFFICER: Mr. William Benson, DSN 992-4226  
COMM 908/532-4226

PE & LINE #: 1X428010.D107

DESCRIPTION: The AN/TTC-39A Circuit Switch is a 744 line mobile, automatic, modular, electronic telephone switch which operates under the control of a central processor. It is configured in a single shelter with integral COMSEC and multiplex equipment. The minimum essential control functions for the AN/TSQ-111 have been inherently designed into the electronics. The AN/TTC-39A is compatible with and interface to the Defense Communications System, NATO Integrated Communication System, Allied Organic Combat Communications System and the tactical communication systems of the services. AN/TTC-39D is an all digital configuration providing service for 708 terminations. It provides flood search routing capability using the MSE routing subsystem, interface capability for the MSE Radio Access Unit (RAU), and analog capability using the Digital Line Termination Unit (DLTU). A Joint Service effort is underway to transport the functions of the Routing Subsystem to the switch central processor. This new capability will provide a common software package for the AN/TTC-39D, AN/TTC-39AV 3/4 and the MSE AN/TTC-46 and AN/TTC-47.



HISTORICAL BACKGROUND:

- Sep 87 - AN/TTC-39D Modification awarded (3 switches).
- Sep 89 - AN/TTC-39D Production option award (23 kits).
- Sep 90 - AN/TTC-39D Production option award (11 kits).
- Jun 91 - First three AN/TTC-39D retrofits completed in Germany.
- Feb 92 - AN/TTC-39D Production option award (12 kits).
- Apr 93 - Fielding of First AN/TTC-39D with packet switching.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1				2				3				4				1				2			
Fielding AN/TTC-39A(V)4																												
Fielding AN/TTC-39A(V)1																												
Fielding AN/TTC-39D																												

REQUIREMENTS DOCUMENT:

TYPE CLASSIFICATION: ASARC-III, Jun 80, Standard.

AN/TTC-39 IS A MOBILE, AUTOMATIC, MODULAR ELECTRONIC CIRCUIT SWITCH UNDER PROCESSOR CONTROL WITH INTEGRAL COMSEC AND MULTIPLEX EQUIPMENT. AN/TTC-39A PRODUCTION IMPROVEMENT ADDS NODAL CONTROL CAPABILITY TO THE CIRCUIT SWITCH. AN/TTC-39D PRODUCT IMPROVEMENT ADDS MSE FLOOD SEARCH CAPABILITY TO THE CIRCUIT SWITCH.

PM, JTACS

AN/TTC-49, TACTICAL HYBRID SWITCH (THS)

PROJECT OFFICER: Mr. Ronald Testa, DSN 992-3658  
COMM 008/532-3658

PE & LINE #:

DESCRIPTION: The THS is an NDI that draws upon the SB-3614A(V)/TT and the MSE Small Extension Node Switch (SENS) programs. It provides a 60 line analog switch assembly housed in an extended S-250 shelter that can be transported on an M-1028 Commercial Utility Cargo Vehicle and powered by a PU-753 10 kilowatt trailer mounted diesel generator set. The shelter assembly will include the mechanical and electrical facilities required to allow upgrade to SENS configuration by component insertion (DGM, COMSEC, digital cards, etc.). The switchboard used in the THS can be converted to the MSE switchboard configuration by changing the card population. THS uses the Terminal Control Device of the SB-3614A(V)/TT for creating and maintaining the switchboard's data base. THS also includes a dismount kit that will provide remote stand-alone operation of one of the switchboards.



HISTORICAL BACKGROUND:

Jun 89 - Upgrade contract awarded.  
Jan 90 - Turn-in at Ft. Polk with arrival of MSE.  
Jul 91 - Second turn-in for Ft Drum.  
Jan 92 - Acceptance for upgraded AN/TTC-49s to SENS.  
May 92 - Fielding at the 151st Signal Battalion.  
Feb 93 - Turn-in at Fort Riley with arrival of MSE.

REQUIREMENTS DOCUMENT: Qualitative Material Requirement for Automatic Electronic Switching Systems, Nov 72.

TYPE CLASSIFICATION: Standard approved Aug 86.

AN/TTC-49, THS PROVIDES A 60 LINE ANALOG SWITCH ASSEMBLY HOUSED IN AN EXTENDED S-250 SHELTER THAT CAN BE TRANSPORTED ON AN M-1028.



PM, JTACS

AN/TYC-39A, MESSAGE SWITCH

PROJECT OFFICER: Mr. James Brigrance, DSN 992-2678  
COMM 908/532-2678

PE & LINE #: 1X428010.D222

DESCRIPTION: The AN/TYC-39 Message Switch is a mobile, automatic, modular, electronic store and forward switch under processor control with integral COMSEC and multiplex equipment. It is compatible with the Defense Communications System Automatic Digital Network. The Message Switch will operate independently or jointly with the AN/TYC-39A Circuit Switch. The Message Switch accepts, processes, stores, delivers and accounts for message traffic by utilizing the store and forward central processor, appropriate software programs and memory storage. The three prime capabilities of the Message Switch are of security, message accountability and verifying character/bit integrity of all message traffic. Provisions are also made for four day journal storage, control of message orbiting, six levels of precedence and continuous monitoring. AN/TYC-34A provides the field user significant security and reliability enhancements.



HISTORICAL BACKGROUND:

Dec 82 - First system delivery.  
Feb 85 - Delivery of last production AN/TYC-39.  
Mar 91 - Production contract awarded for Materiel Change (9 kits).  
Jan 92 - Production option awarded for Materiel Change (7 kits).  
Dec 92 - Production option awarded for Materiel Change (17 kits).  
Jan 93 - First Qualification Unit completed.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
Production of Retrofit Kits					!																							
Materiel Release						!																						

REQUIREMENTS DOCUMENT: JCS Memorandum 407-71 established requirements.

TYPE CLASSIFICATION: Standard approved Apr 80, ASARC III.

AN/TYC-3A IS A MOBILE, AUTOMATIC, MODULAR, ELECTRONIC STORE AND FORWARD MESSAGE SWITCH UNDER PROCESSOR CONTROL WITH INTEGRAL COMSEC AND MULTIPLEX EQUIPMENT.

PM, JTACS

AN/TYQ-30(V)1, AN/TYQ-30(V)2, AN/TYQ-31,  
COMMUNICATION SYSTEM CONTROL ELEMENT (CSCE)

PRODUCT MANAGER: LTC R.A. Kirsch II, DSN 992-3110  
COMM 908/532-3110

PE & LINE #: 1X428010.D107

**DESCRIPTION:** The CSCE is the principal element of the system management and control hierarchy for the tactical switched network in Echelons Above Corps. CSCE is a hierarchical system that includes the following three components: AN/TYQ-30(V)1 used by Signal Battalions; AN/TYQ-30(V)2 used by Signal Battalions; AN/TYQ-31 Nodal Processor used by Signal Companies. It will exercise near real-time control over the allocation and use of resources within its assigned portion of the deployed tactical communications network. CSCE is an evolutionary program. The software is segmented into discrete and demonstrable "phases". The hardware is an NDI procurement. Software incorporates "off-the-shelf" software (e.g., VMS, ORACLE, PASSPORT, GRAPHICS, AFES) and new software written in HOLIS (ADA, FORTRAN). Hardware is Microvax based with Government Furnished Equipment (e.g., DSVTS, uSDIs, DGM).

#### HISTORICAL BACKGROUND:

Feb 83 - Air Force transfers program to Army.  
Feb 87 - Production contract restarted, all protests denied.  
Apr 87 - Phase IV software completed/SASC contract terminated.  
Sep 87 - Awarded Follow-On Software Development contract to GTE.  
Aug 90 - User Test conducted.  
Feb 92 - First fielding to Germany completed.

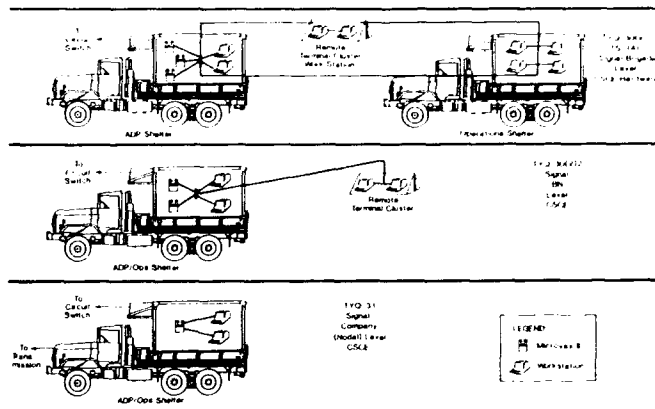
#### EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
TRANSITION TO CECOM																	!											

**REQUIREMENTS DOCUMENT:** Joint Service Operational Requirement (JSOR) Jul 1974. (SM 393-74).

**TYPE CLASSIFICATION:** Standard approved Nov 90, Special IPR.

#### CSCE HARDWARE CONFIGURATION



CSCE IS THE PRINCIPAL ELEMENT OF SYSTEM MANAGEMENT AND CONTROL HIERARCHY FOR ECHELONS ABOVE CORPS COMMUNICATIONS SYSTEMS.

PM, JTACS

ARMY KEY MANAGEMENT SYSTEM (AKMS)

PROJECT OFFICER: Mr. John Skrletts, DSN 992-5988  
COMM 908/532-5988

PE & LINE #: 0303140A.D491

DESCRIPTION: AKMS is the combination of several programs to integrate all functions of COMSEC key management and frequency management into one system. These systems were formally known as Revised Battlefield Electronic CEOI System (RBECS), Automated COMSEC Management And Engineering System (ACMES), and Army Electronic Generation and Distribution System (AEGADS). The combined system is designed to meet the critical requirement to decentralize and automate the processes required to generate and distribute data required by communications systems. Data includes COMSEC Keys, ECCM fill and CEOI. It will be more responsive to rapidly changing and highly mobile battlefield conditions as an integral system used with SINGARS, MSE, EAC COMMS, JTIDS, EPLRS and other systems.

The AKMS system is composed of workstation, and Automated Net Control Device (ANCD), and a Key Distribution Device (KDD). Local COMSEC Management Software (LCMS), Revised Battlefield Electronics CEOI software, and COMSEC net planning software. The workstation software is hosted on the Lightweight Computer Unit (LCU) and includes the Key Processor (KOK-22) and a printer as peripherals. The ANCD and KDD are made up of Army unique application software hosted on the NSA developed Data Transfer Device (DTD). AKMS will eliminate the use of paper CEOIs and hard copy key and will provide greater flexibility and security to user units. It will be used by all combat, combat support, combat service support units.

HISTORICAL BACKGROUND:

Jun 87 - O&O Plan approved.  
May 91 - ACMES and Battlefield Electronics CEOI System (BECS) programs combined.  
Dec 91 - ACMES program transitioned to PM MSCS.  
Apr 93 - ACMES Phase I milestone IIb accomplished.  
Apr 93 - ACMES and AEGADS programs consolidated.  
Jun 93 - ACMES Phase I fielding started.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1				1				1				1				1				1			
AKMS Phase I Fielding																												
ANCD FQT																												
KDD FQT																												
Workstation PDR																												
Workstation CDR																												
IOTE Phase II																												
Milestone III Phase II																												
IOC																												

TYPE CLASSIFICATION: Standard, Apr 93.

AKMS IS THE COMBINATION OF SEVERAL PROGRAMS TO INTEGRATE ALL FUNCTIONS OF COMSEC KEY MANAGEMENT AND FREQUENCY MANAGEMENT INTO ONE SYSTEM.

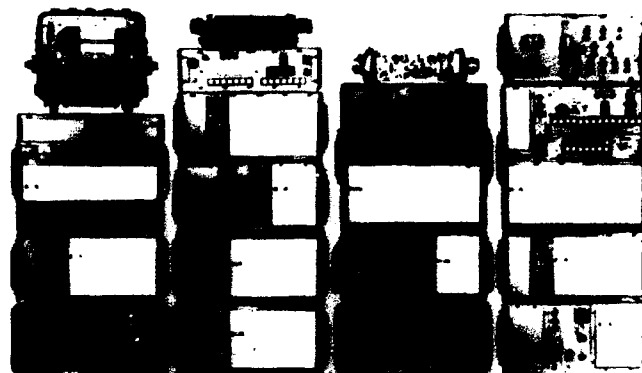
PM, JTACS

DIGITAL GROUP MULTIPLEXER (DGM)

PROJECT OFFICER: Messrs. Frank Colucci and Jon Vogel  
DSN 992-3474, COMM 908/532-3474

PE & LINE #: 1X428010.0107

DESCRIPTION: The DGM equipment is composed of a family of Digital Multiplexers, Cable Driver Modems, Pulse Restorers, and Orderwire Control Units for use as elements of the EAC (formerly TRI-TAC) comm system. The DGM family of equipment is deployed in the following DGM assemblages: AN/TRC-173, Radio Terminal Set; AN/TRC-175, Radio Terminal Set; AN/TRC-138A/B, Radio Repeater Set; and AN/TRC-174 Radio Repeater Set. They are also used in the following assemblages: AN/TRC-170, Troposcatter Radio Terminal; AN/TYQ-30/31, Communications System Control Element; AN/TTC-39A/D, Circuit Switch; AN/TSC-85( ), Tactical Satellite Communications Terminal, and AN/TSC-100A Multichannel Super High Frequency Satellite Communications Terminal. DGM is also used in the Air Force unique assemblages AN/TSQ-111, Communications Nodal Control Element and AN/TSQ-146, MUX VAN. In addition, DGM equipment is deployed in stand-alone applications by Army, Air Force, and Marine Corps. DGM equipment is provided as Government Furnished Equipment to a number of Army and Air Force assemblage contractors for integration into and delivery with their assemblages.



**DIGITAL GROUP MULTIPLEXER EQUIPMENT**

TD-3874/1	TD-1234/1	TD-1234/2	TD-1234/3
TD-1234/4	TD-1234/5	TD-1234/6	TD-1234/7
TD-1234/8	TD-1234/9	TD-1234/10	TD-1234/11
TD-1234/12	TD-1234/13	TD-1234/14	TD-1234/15

TD-2234/1 (TRC IAS)  
C-11843/1 (OCU II)  
MD-1086/G (FRA)  
MD-1023/1/G (LSCDM)

HISTORICAL BACKGROUND:

- Dec 74 - JOR for DGM approved by Joint Chiefs.
- May 75 - FSED contract awarded to Raytheon.
- Mar 82 - Production contract awarded to Raytheon.
- Aug 87 - Initial Army fieldings of DGM.
- Apr 89 - Competitive contract award to Group Technology Corporation (GTC) for four High Volume units.
- Jun 91 - Raytheon Production Final Delivery.
- Sep 91 - GTC Production Deliveries began.

EVENT SCHEDULE:

FISCAL YEAR		93				94				95				96				97				98				99			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
TRANSITION	TBD																												

REQUIREMENTS DOCUMENT: OSD Memorandum, JSOR, Dec 74.

TYPE CLASSIFICATION: Standard approved Aug 1981, IPR.

DGM IS A FAMILY OF VARIOUS MULTIPLEXERS, MODEMS, ORDERWIRE CONTROL UNITS, AND CABLE SYSTEM COMPONENTS THAT ARE DEPLOYED IN TRI-TAC EQUIPMENT.

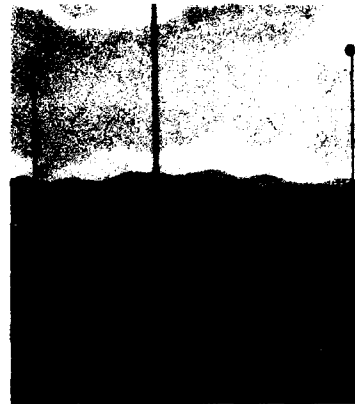
PM, JTACS

DIGITAL GROUP MULTIPLEXER ANTENNA MAST PROGRAM (DAMP)

PROJECT OFFICER: Ms. Noreen Polo, DSN 992-3525  
COMM 908/532-3525

PE & LINE #:

DESCRIPTION: The DAMP consists of up to three Quick Erect 30 Meter Manual Antenna Masts stowed in a transit frame and mounted on an M1061A1 trailer or on the bed of a 5-ton cargo truck. The configuration depends on the variant of the Digital Group Multiplexer (DGM) system it supports. These masts will deploy antennas in support of the AN/TRC-173( ), AN/TRC-174( ), AN/TRC-175( ) and AN/TRC-138A/138B. These systems will include two each MEP 003A 10 kilowatt diesel generators for system power.



HISTORICAL BACKGROUND:

- Jul 86 - Signal Center General Officer Meeting decided the AB-1309/TRC Antenna Mast would no longer be fielded with DGM assemblages but instead as an auxiliary mast system. The DGM Assemblage Mast Program will provide an objective antenna mast system for DGM assemblages.
- Dec 88 - DA direction to proceed with 30M Mast Procurement.
- Feb 90 - Contract (basic) awarded.
- May 91 - FAT completed.
- Jul 92 - First Unit Equipped (FUE). Conditional Release to Korea.
- Jul 93 - Full Materiel Release.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
TRANSITION													1															

REQUIREMENTS DOCUMENT: DGM JSOR, Dec 74.

TYPE CLASSIFICATION: Standard (DGM) approved Aug 81; Updated by Materiel Status Record Change 1991.

DAMP PROVIDES ANTENNA MASTS, GENERATORS AND ANCILLARY ITEM TRANSPORT IN SUPPORT OF THE DGM ASSEMBLAGES.

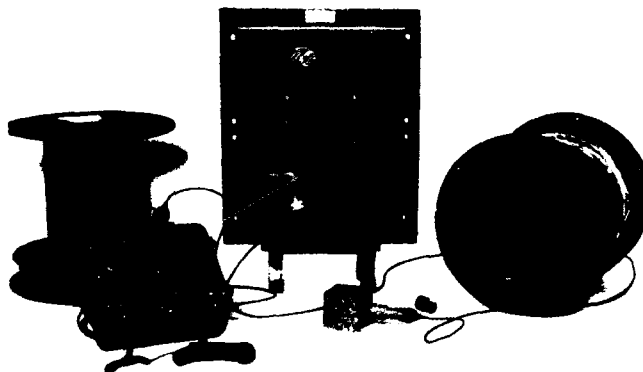
PM, JTACS

FIBER OPTICS TRANSMISSION SYSTEM (FOTS)

PROJECT OFFICER: Messrs. Tom Muldowney and Jorge Tersy  
DSN 992-3525, COMM 908/532-3525

PE & LINE #: 1E464701.D48736

DESCRIPTION: The FOTS is designed to be a replacement for the CX-11230 Coaxial Cable. FOTS is composed of the following equipments: Fiber Optic Modem (FOM); Field Test Set (FTS); Fiber Optic Cable Assembly (FOCA), and Cable Repair Kit (CRK). The FOM is mounted on the shelter entrance panel and converts the electrical signal to an optical signal for transmission down the FOCA. The FTS is utilized to troubleshoot the cable system. The CRK permits repair and retermination of the FOCA in a sheltered environment. The FOCA is a two fiber cable assembly and is provided in 300 meter and one kilometer lengths. The FOCA is the standard tactical two fiber cable assembly used by all services. The performance requirement for the FOTS is eight kilometers without repeaters.



HISTORICAL BACKGROUND:

Feb 79 - Special In-Process Review for entry into Full Scale Engineering Development.  
Jul 86 - DT-II/OT-II completed.  
Jul 90 - First Article Test (FAT) approved AT&T.  
Aug 91 - FAT approved, FiberCom, Incorporated.  
Apr 92 - Interoperability testing with Marine Corps IAW JIC3ATIS9109C.  
Jul 92 - Limited User Assessment Test, Ft. Gordon, GA.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
TRANSITION										!																		

REQUIREMENTS DOCUMENT: ROC approved Nov 81.

TYPE CLASSIFICATION: Standard approved Aug 87.

FOTS IS A REPLACEMENT FOR CX-11230 TWIN COAXIAL CABLE AND OFFERS INCREASED BANDWIDTH, DECREASED DIAMETER AND WEIGHT, INCREASED FLEXIBILITY, ELECTROMAGNETIC PULSE/RADIO FREQUENCY INTERFERENCE (EMP/RFI) IMMUNITY AND LOWER COST.

PM, JTACS

INTEGRATED SYSTEMS CONTROL (ISYSCON)

PRODUCT MANAGER: LTC R. A. Kirsch, II DSN 992-3110  
COMM 908/532-3110

PE & LINE #: D107

DESCRIPTION: The ISYSCON facility is used by Signal Commanders at Division through Theater. It provides automated assistance in managing and integrating the various communications systems in the tactical area of operations. It uses Army Command and Control System hardware, software, shelter and extension tents. Software will be developed in three discreet blocks using an Ada environment. ISYSCON supports the following five major functional areas: Battlefield Spectrum Management, COMSEC Management, Network Planning and Engineering, Signal Command and Control, and Wide Area Network (WAN) Management.

HISTORICAL BACKGROUND:

Nov 91 - Acquisition Plan approved; Milestone I/II IPR.  
Dec 91 - RFP released.  
Feb 92 - Proposals received; Source Selection began.  
Sep 92 - Contract Award.  
Dec 92 - Protest resolved  
Apr 93 - Post AWD/1st Qtrly Review.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99							
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Contract Award/Engineering Manufacturing Development					!	*					!	**					!					!	!					!				
BLOCK II Option Award																																
IOT&E Testing (BLOCK I)																																
FAT																																
Milestone III IPR																																
Critical Design Review (CDR)																																

\* Basic Block I

\*\* Block II Option.

REQUIREMENTS DOCUMENT: O&O Plan approved Nov 89; ROC approved Oct 90.

TYPE CLASSIFICATION:

ISYSCON PROVIDES A SYSTEM TO TWO SIGNAL UNITS ENABLING THEM TO COORDINATE THE PLANNING AND EMPLOYMENT OF COMMUNICATIONS RESOURCES IN SUPPORT OF THE COMMANDER'S WARFIGHTING PLAN.

PM, JTACS

MOBILE SUBSCRIBER EQUIPMENT (MSE)

PROJECT OFFICER: John E. Borel, DSN 992-4740  
COMM 908/532-4740

PE & LINE #: SSN: BB1610 and BB1611

DESCRIPTION: The MSE system will provide the tactical force with increased mobility and a discrete address capability to user. The functions of switching, radio trunking, communications security and system control will be integrated into one composite system, which will replace the existing command and area communications system in both the division and corps areas of operation. The MSE system will provide users with a means of communicating throughout the battlefield, regardless of location, in either a static or mobile situation. The system will significantly reduce the need to install wire and cable when establishing command posts. It will provide telephone-like, full-duplex operation for massed or dispersed command posts. The MSE system will consist of five major hardware functional elements: subscriber terminals; multiple subscriber access; wire subscriber access; area coverage; and system control.

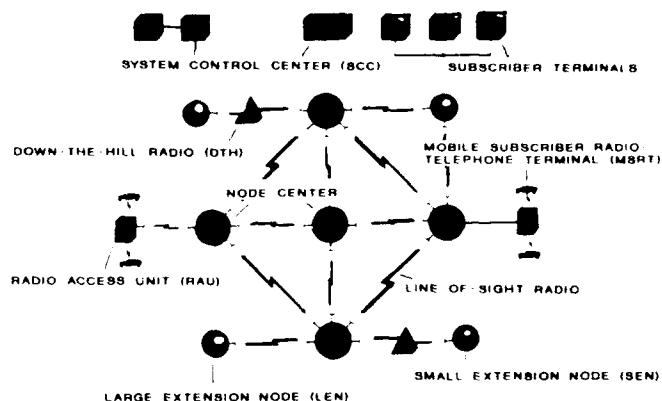
HISTORICAL BACKGROUND:

Oct 79 - Joint Operational Requirement approved.  
Nov 83 - Under Secretary of the Army directed MSE be procured using a non-developmental acquisition approach.  
May 83 - Acquisition Plan approved.  
Sep 83 - Battlefield Communications Review determined MSE will be deployed throughout the Corps and Divisions of Army  
Dec 85 - Contract award (basic); Contract award (1st option).  
Feb 88 - FUE completed.  
Oct 88 - FOTE completed.  
Nov 89 - TEMP approved.  
Aug 90 - MSE support of Operation Desert Shield began.  
Sep 90 - Mobilize Regional Support Center in Saudi Arabia.  
Oct 90 - 1st MSE equipped III Corps deployed to SWA Theater of Operations; Dual LKG contract modification award.  
Nov 90 - LCCP and ADI contract modifications award; VECF consolidated fielding contract modification award.  
Dec 91 - MSE GOSC Review (Signal Architecture Review).  
Jul 93 - Negotiated GTE Global Settlement.

REQUIREMENTS DOCUMENT: MSE Operational Capability document approved by HQDA, 24 May 84.

TYPE CLASSIFICATION: Standard, Nov 85.

MSE SYSTEM ARCHITECTURE



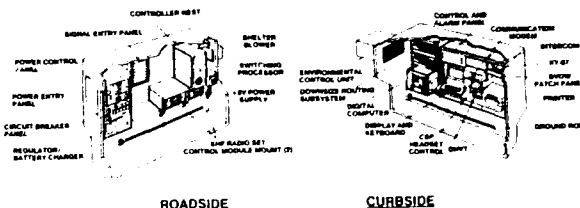
MSE SYSTEM WILL INTEGRATE THE FUNCTIONS OF THE USER TERMINAL EQUIPMENT, SWITCHING, RADIO TRANSMISSION, COMMUNICATIONS SECURITY AND CONTROL INTO ONE COMPOSITE COMMUNICATIONS SYSTEM. WHEN FIELDIED, MSE WILL REPLACE THE EXISTING SWITCHING COMMUNICATIONS SYSTEMS IN THE CORPS AND DIVISION AREAS.



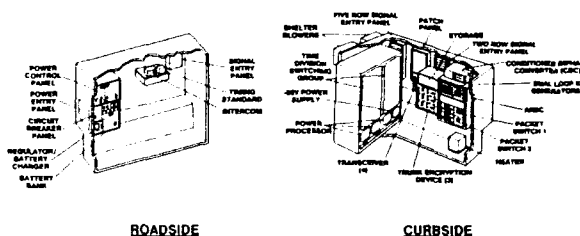
UNIT LEVEL DIGITAL SWITCH PROGRAM (ULDS)

PE &amp; LINE #:

**DESCRIPTION:** The ULDS is to be deployed at Echelons Above Corps (EAC) units. The ULDS is composed of an MSE Small Extension Node Switch (SENS), AN/TTC-48 and MSE Large Extension Node Switch (LENS), AN/TTC-46. The SENS will provide the primary means of telephone subscriber access into the EAC area system utilizing a 41-line automatic switchboard. The MSE SENS is housed in an extended S-250E shelter. It also provides a direct link between local subscribers as well as a manual interface to commercial telephone systems. The LENS will provide access for up to 176 subscribers into the EAC area system. It can also provide the flood search and automatic affiliation/disaffiliation capabilities. The EAC LENS will be housed in two assemblages, an S-250 Switching Group and an S-250E Operations Group.



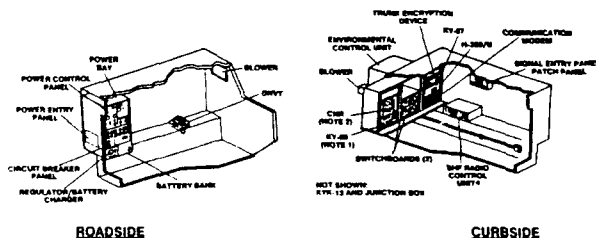
ULDS LENS, OL-412/TTC-46C(V)  
OPERATIONS GROUP SHELTER



ULDS LENS, ON-305/TTC-46C(V)  
SWITCHING GROUP SHELTER

## HISTORICAL BACKGROUND:

- Dec 90 - SENS fielded to 7th Signal Brigade.  
Dec 91 - SENS fielded to 304th Signal BN & 67th Signal BN.  
Feb 92 - Fielding to 307th Signal Battalion.  
Apr 92 - Materiel Release for LENS fielding.  
Aug 92 - Lens fielded to 97th SIG BN.  
Apr 93 - Materiel Release for AN/ITC-48A(V)2.



NOTES: 1. KY-90 INSTALLED IAW MISSION REQUIREMENTS. 2. CNR SUPPLIED AND INSTALLED BY INMT. \* NOT INSTALLED/UTILIZED FOR EAC FIELDING.

EVENT SCHEDULE:

AN/TTC-48A(V)2 (SENS)

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<u>MSE LENS:</u> NET Fielding									1																			

REQUIREMENTS DOCUMENT: DA Message 091129ZJUN87, TRI-TAC Block III Architecture.

TYPE CLASSIFICATION: Standard.

ULDS PROVIDES PRIMARY MEANS OF TELEPHONE SUBSCRIBER ACCESS INTO THE EAC AREA SYSTEM UTILIZING A 41-LINE AUTOMATIC SWITCHBOARD.

PM MILSTAR  
(ARMY)

PM, MILSTAR (ARMY)

AN/FRC-181(V)1 AND AN/TRC-194(V)1,2,  
MILSTAR GROUND COMMAND POST (GNDCP) TERMINALS

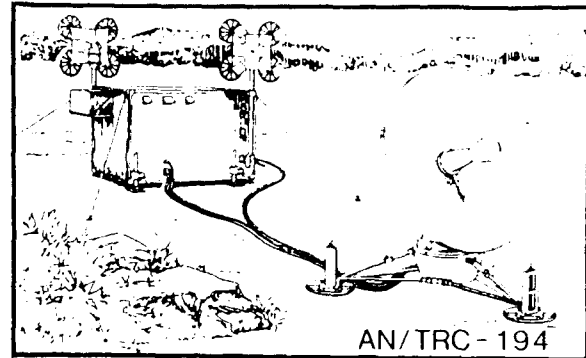
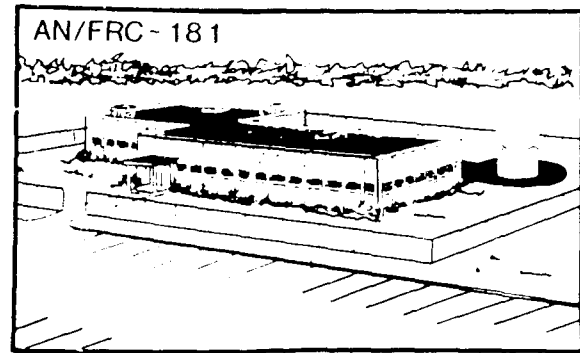
PROJECT MANAGER: COL William Jaissle, DSN 992-5232  
COMM 908/532-5232

PE & LINE #: 33142.383 SSN: BC4001

**DESCRIPTION:** The Milstar program is a multi-service satellite communications system (consisting of satellites and terminals) which will operate with Extremely High Frequency/Ultra High Frequency (EHF/UHF) uplinks and Super High Frequency (SHF)/UHF downlinks. The terminal segment will provide: worldwide; two-way; anti-jam; survivable; secure voice; teletype; and data communications enabling the National Command Authority (NCA) to command and control strategic and tactical forces through all levels of conflict and crisis. Milstar system must be operational and serviceable in a severe warfare environment, (e.g. nuclear, biological, chemical and electronic).

AN/FRC-181(V)1 is a GNDCP fixed terminal housed in an operational center and installed at CINC and Special User locations. The terminal replaces the AN/GSC-40.

AN/TRC-194(V)1,2 is a GNDCP transportable terminal housed in a S-280 shelter, transported by two 5-ton vehicles and uses twin 30Kw generators with trailers. PM MILSTAR will integrate the GNDCPs into the Army force structure.



#### HISTORICAL BACKGROUND:

- Feb 89 - Army assigns PM SCOTT as Level I SICA Manager for 16 JCS Validated Terminals.
- Dec 89 - AF Low Rate Initial Production (LRIP) award Raytheon/Rockwell.
- Jan 91 - Milstar Restructuring Plan approved.
- Oct 92 - Re-evaluation of requirements for a quantity of 8 terminals to be integrated into the Army force structure.
- Oct 92 - Milstar Program DAB.
- May 93 - CORE BUYOUT Raytheon/Rockwell.

#### EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
CONFIGURE TRANSPORTABLE TERMINAL	— !																											
ACQUIRE GFE																	!											
COMPLETE SITE SURVEYS													!															
ACQUIRE EHF/UHF SPARES																	!											
START/COMPLETE DELIVERY TO ARMY									!												!							
FUE									!																			

REQUIREMENTS DOCUMENT: JORD, Oct 92.

TYPE CLASSIFICATION: USAF to type classify.

MILSTAR EHF-UHF GROUND COMMAND POST TERMINALS PROVIDE FIXED/SEMI-FIXED CAPABILITIES FOR NET CONTROL AND VOICE, TELETYPE AND DATA COMMUNICATIONS IN AN EXTREMELY HOSTILE ENVIRONMENT.

PM, MILSTAR (ARMY)

AN/TSC-124, MILSTAR ENGINEERING DEVELOPMENT MODEL TERMINAL

(MET)

Formerly Single Channel Objective Tactical Terminal (SCOTT)

PROJECT MANAGER: COL William Jaissle, DSN 992-5232  
COMM 908/532-5232

PE & LINE #: 33142.455 SSN: K23700

DESCRIPTION: The MET is an EHF satellite terminal which will provide mobile, survivable, anti-jam and low probability of intercept communications. The MET configuration consists of an S-250 shelter mounted on a truck with a trailer and generator. MET is the ground segment terminal of the Milstar system assigned to support the Army. It will provide data or secure voice communications at 75-2400 bps for up to four users. The user can be remoted up to 2500 feet away. Due to the recent reduction in the Non-Strategic Nuclear Forces (NSNF) environment and Army downsizing, the SCOTT production phase has been cancelled.

The Full Scale Engineering Development (FSED) terminals will be utilized as test assets to support satellite tests and interoperability demonstrations and possible contingency fielding. All fifteen FSED terminals have been accepted following a limited First Article Test.



HISTORICAL BACKGROUND:

May 80 - IPR approves entering Advanced Development (AD) phase with Lincoln Laboratory on an EHF terminal.  
Dec 85 - FSD contract awarded to Magnavox (\$105.9M FFP).  
Oct 90 - FY91 Congressional language directed SECDEF to restructure MILSTAR EHF programs.  
Mar 92 - Fourth successful Joint Service Interoperability Demonstration.  
Dec 92 - Successfully participated in MST-6000 (Satellite Simulator) Test.  
May 93 - Acceptance of final FSED Terminals

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
PARTICIPATE IN MST-8000																												
SUPPORT AF IOT&E																												
RISK REDUCTION FOR SMART-T & SCAMP																												

REQUIREMENTS DOCUMENT: ROC approved Aug 85.

TYPE CLASSIFICATION: N/A

SCOTT IS AN EHF SATELLITE EARTH TERMINAL THAT PROVIDES MOBILE, ROBUST, SURVIVABLE ANTI-JAM AND LOW PROBABILITY OF INTERCEPT COMMUNICATIONS INSTALLED IN AN S-250 SHELTER MOUNTED ON A DUAL-WHEELED CUCV WITH A TRAILER MOUNTED THREE KILOWATT GENERATOR AND ANTENNA.

PM, MILSTAR (ARMY)

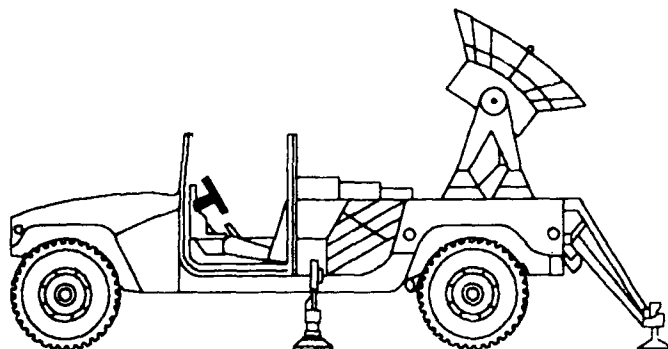
SECURE MOBILE ANTI-JAM RELIABLE TACTICAL TERMINAL (SMART-T)

PROJECT OFFICER: COL William Jaissle, DSN 992-5232  
COMM 908/532-5232

PE & LINE #: FY93 and Prior: 33142.455  
FY94 and Beyond: 33142.384

SSN: BC4002

DESCRIPTION: The SMART-T terminal will provide tactical users with secure, survivable, anti-jam, low probability of intercept and detection satellite communications in a High Mobility Multi-Purpose Wheeled Vehicle (HMMWV) configuration. This equipment will communicate/process data and voice communications at both low and medium EHF data rates. SMART-T will provide a range extension capability to MSE supporting Airland Operations. SMART-T provides a satellite interface to permit uninterrupted communications as our advancing forces move beyond the line-of-sight capability of MSE.



HISTORICAL BACKGROUND:

- Oct 90 - Congressional direction to restructure Milstar.
- Jan 91 - Deputy Secretary of Defense submitted restructured Milstar plan to Chairman, Armed Services Committee; Milstar restructure plan approved.
- May 92 - ASARC (Milestone II) approved.
- Oct 92 - MILSTAR Program Review DAB conducted.
- Ncv 92 - Dual development contracts awarded to Raytheon Company, Marlborough, MA and Rockwell International, Richardson, Texas.
- May 93 - Preliminary Design Reviews completed.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
DUAL DEVELOPMENT CONTRACTS AWARDED	!																											
CRITICAL DESIGN REVIEW					!																							
DT&E COMPLETED													!															
LRIP DECISION													!															
LRIP CONTRACT AWARD													!															
IOT&E COMPLETED																												
MILESTONE III DECISION REVIEW; FULL SCALE PRD AND BEGIN FOT&E																						!				!		!

REQUIREMENTS DOCUMENT: Army Milstar Advanced Satellite Terminals (MAST) Operational Requirements Document, Mar 92.

TYPE CLASSIFICATION:

SMART-T PROVIDES USERS WITH SECURE, SURVIVABLE, ANTI-JAM, LOW PROBABILITY OF INTERCEPT AND DETECTION SATELLITE COMMUNICATIONS IN A HMMWV.

PM, MILSTAR (ARMY)

SINGLE CHANNEL ANTI-JAM MANPORTABLE TERMINAL (SCAMP)

PROJECT OFFICER: COL William Jaissle, DSN 992-5232  
COMM 908/532-5232

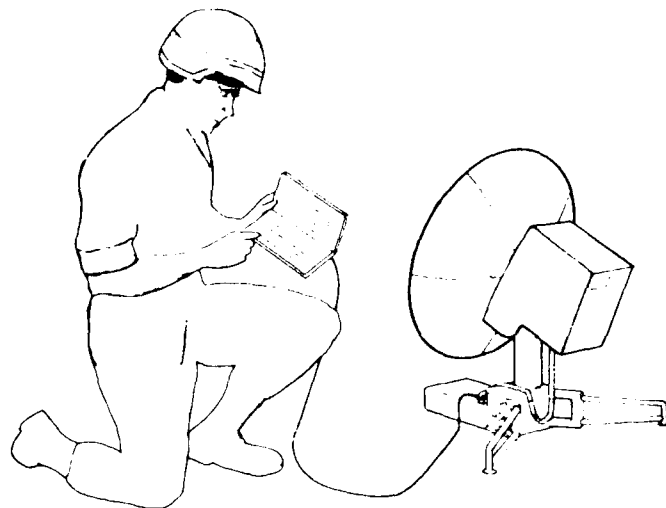
PE & LINE #: FY93 and Prior: 33142.455  
FY94 and Beyond: 33142.386

SSN: BC4003

DESCRIPTION:

BLOCK I: The SCAMP Block I program will provide a manportable, secure, anti-jam, single channel low data rate EHF worldwide voice and data satellite communications terminal. This user owned and operated 30 pound terminal meets a critical need for command and control in an electronic warfare environment. The system will operate in an intense jamming environment, having low probability of detection and interception with interface to the Army Common Users System (ACUS).

BLOCK II: The SCAMP Block II program will provide a manpackable 12-15 pound weight limitation terminal to the tactical soldier. Research and Development has been initiated and continues through the 1990s on battery, Millimeter Microwave Integrated Circuits (MIMIC), composite materials, and antenna technology. Production is planned for FY00.



**SCAMP**

HISTORICAL BACKGROUND:

- Oct 90 - Congressional direction to restructure Milstar.
- Jan 91 - Deputy Secretary of Defense submitted restructured Milstar plan to Chairman, Armed Services Committee; Milstar restructure plan approved.
- Apr 91 - ROC approval.
- May 92 - ASARC (Milestone II).
- Sep 92 - Award competitive contracts - Lockheed Corporation, Sunnyvale, CA & Martin Marietta Corp., Camden, New Jersey (Formerly General Electric Aerospace)

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
CDR																												
PDR																												
MILESTONE III																												
OT																												

REQUIREMENTS DOCUMENT: Army Milstar Advanced Satellite Terminals (MAST) Operational Requirements Document, Mar 92.

TYPE CLASSIFICATION:

SCAMP TERMINAL WILL PROVIDE MANPORTABLE, SECURE, ANTI-JAM SATELLITE COMMUNICATIONS CAPABILITY TO ARMY AND AIR FORCE UNITS WHICH CANNOT BE SERVED BY LARGER LESS MOBILE TERMINALS.

PM, MILSTAR (ARMY)

SINGLE CHANNEL ANTI-JAM MANPORTABLE TERMINAL  
(SCAMP BLOCK II)

PROJECT MANAGER: COL William Jaissle, DSN 992-5232  
COMM 908/532-5232

PE & LINE #: 33142.386 SSN: BC4003

DESCRIPTION: The SCAMP BLOCK II program will provide a manpackable 12-15 pound terminal to the tactical soldier. It will transmit and receive low rate data and voice in selectable point-to-point or broadcast modes. It will transmit in the EHF band and receive in the SHF band, and have a paging capability. Research and development has been initiated and continues through the 1990s on battery, Millimeter Microwave Integrated Circuits (MIMIC), composite materials, and antenna technology. Production is planned for FY00.

HISTORICAL BACKGROUND:

May 92 - ASARC Approved Engineering Feasibility Efforts (EFE).  
Nov 92 - Lincoln Labs Downsizing Continuing.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
PROGRAM EFE																												
E2T CONTRACT AWARD																												
ASARC - MILESTONE II																												
EMD CONTRACT AWARD																												
CONTINUE EMD																												

REQUIREMENTS DOCUMENT: Army Milstar Advanced Satellite Terminals (MAST) Operational Requirements Document, Mar 92.

TYPE CLASSIFICATION:

SCAMP BLOCK II TERMINAL WILL PROVIDE 12-15 LB. MANPACKABLE, SECURE, ANTI-JAM COMMUNICATIONS, PAGING CAPABILITY TO THE TACTICAL SOLDIER.

PM SATCOM



PM, SATCOM

AN/FGQ-13, SMART MULTI-CIRCUIT TERMINAL (SMCT)

PROJECT MANAGER: COL Dennis K. Raymond, DSN 992-5305  
COMM 908/532-5305

PRODUCT MANAGER: Mr. Ronald F. Johnson, DSN 992-5293  
COMM 908/532-5293

PE & LINE #: BB8509

DESCRIPTION: The SMCT is an automated system which provides consolidation of the numerous control/coordination teletype requirements of the Terrestrial Critical Control Circuit (TCCC) through termination of each circuit on a display keyboard terminal and printer. It provides reliable time tagged communications with message routing capabilities in a clear or encrypted environment. SMCT is composed of two Central Processing Units, two Mass Memory (Disks), two Keyboards, four Video Display Units, and Printer.



HISTORICAL BACKGROUND:

- May 85 - Implementation strategy of SMCT. Members were DA, AMC and SATCOM. Recommendation was for DA to direct SATCOMA to MIPR \$6.3M to DCA with AMC concurrence.
- Jun 85 - AMC Msg 261900ZJUN85 directed SATCOM to MIPR \$6.3M to DCA for procurement of SMCT.
- Jul 85 - ED contract awarded by DCA.
- Feb 86 - ED contract awarded by DCA for additional models.
- Sep 87 - Production contract awarded by DCA for four SMCT.

REQUIREMENTS DOCUMENT: DSCS Program Plan FY86-90.

TYPE CLASSIFICATION: Waived, DA directed procurement.

SMCT IS A MICROPROCESSOR BASED SYSTEM USED TO PROVIDE FULL DUPLEX SECURE RESERVED COMMUNICATIONS BETWEEN ALL DEFENSE SATELLITE COMMUNICATIONS SYSTEM (DSCS) CONTROL FACILITIES.

PM, SATCOM

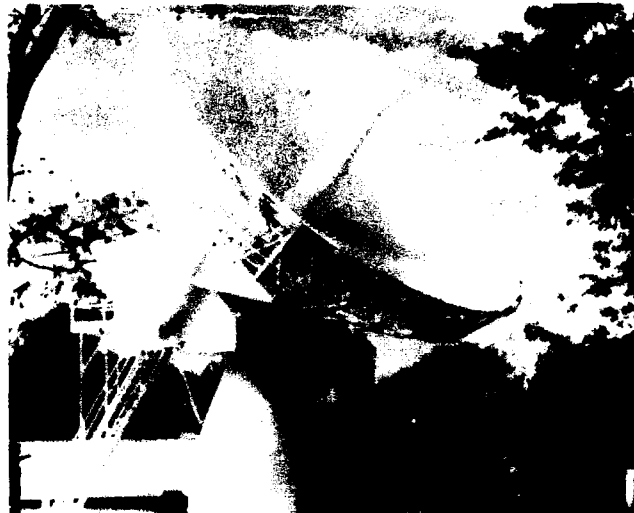
AN/FSC-78/79, HEAVY TERMINAL AND AN/GSC-39(V)2 MEDIUM  
TERMINAL (HT/MT) MODERNIZATION PROGRAM

PRODUCT MANAGER: COL Dennis K. Raymond, DSN 992-5305  
COMM 908/532-5305

PRODUCT MANAGER: Mr. William Anderson, DSN 992-0995  
COMM 908/532-0995

PE & LINE #: SSN: BB8416

DESCRIPTION: The AN/FSC-78 and AN/FSC-79 Heavy Terminals (HTs) and AN/GSC-39(V)2 Medium Terminals (MTs) have operated as part of the Defense Satellite Communications Systems (DSCS) satellite network since the mid-1970s and have surpassed their design life of 15 years. The modernization effort will provide for the upgrade of aging electronics in the HTs and MTs so that all DSCS Super High Frequency (SHF) strategic earth terminals will use common electronics and logistics support. It encompasses the equipment from the antenna interface to the communications and control subsystem interfaces. The result will extend the life of the terminals for another 15 years, increase readiness, reduce training and logistics support, conserve energy and improve maintainability.



HISTORICAL BACKGROUND:

Jun 89 - DSCS Program Plan FY91-95 established requirement for the HT/MT Modernization DOD Tri-Service Program.  
Jan 91 - Milestone III IPR approval to proceed with procurement and application of the materiel change.  
Mar 92 - Production contract award to procure HTs.

REQUIREMENTS DOCUMENT: DSCS Program Plan FY91-95.

TYPE CLASSIFICATION: Deferred per HQDA until final support package is available at 5th installation site.

HT/MT MOD KITS WILL PROVIDE FOR THE UPGRADE OF AGING ELECTRONICS IN THE HEAVY TERMINALS/MEDIUM TERMINALS SO THAT ALL DSCS SHF STRATEGIC EARTH TERMINALS WILL USE COMMON ELECTRONICS AND LOGISTICS SUPPORT.

PM, SATCOM

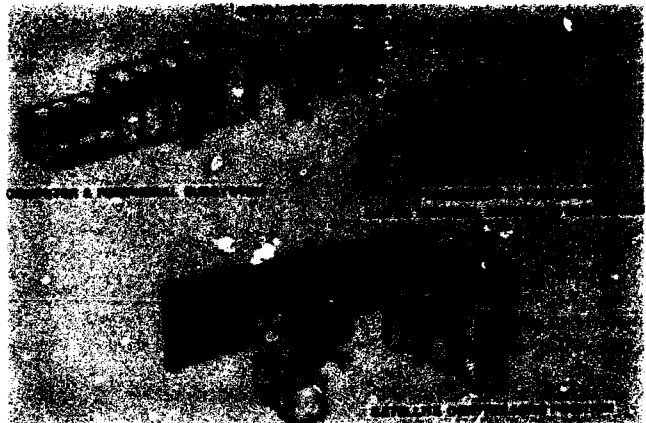
AN/FSC-91, SATELLITE CONFIGURATION CONTROL ELEMENT (SCCE)

PROJECT MANAGER: COL Dennis K. Raymond, DSN 992-5305  
COMM 908/532-5305

PRODUCT MANAGER: Mr. Ronald F. Johnson, DSN 992-5293  
COMM 908/523-5293

PE & LINE #: BB8509

DESCRIPTION: The primary function of SCCE is to provide operational command and control of the Defense Satellite Communications System III (DSCS III) satellites to satisfy real-time user requirements. It is capable of jammer detection, location and nulling. Using the telemetry tracking and command channel, the SCCEs generate commands and command sequences which reconfigures DSCS III satellite channels and antenna beam allocations, and control COMSEC equipment. SCCEs will be linked with the DSCS III satellites by existing satellite earth terminals via an "SCCE - Earth Terminal interface."



HISTORICAL BACKGROUND:

Sep 82 - First Production contract awarded for Serial Number (SN) 4 and 5.  
Sep 83 - Production contract awarded for SN 6 and 7.  
Dec 83 - Option exercised for SN 8 and 9.  
Dec 84-May 92 - SN 4-9 were fielded.

REQUIREMENTS DOCUMENT: Defense Satellite Communications System Program Plan as approved by Assistant Secretary of Defense (C3I).

TYPE CLASSIFICATION: Limited production, Mar 82.

NOTE: As last SCCE was recently fielded, contract is in the process of being closed out.

SCCE PROVIDES OPERATIONAL COMMAND AND CONTROL OF DSCS III SATELLITES TO SATISFY REAL-TIME USER REQUIREMENTS.

PM, SATCOM

AN/FSC-96 AND AN/GSC-51, DEFENSE SATELLITE COMMUNICATIONS SYSTEM  
FREQUENCY DIVISION MULTIPLE ACCESS CONTROL SUBSYSTEM (DFCS)

PROJECT MANAGER: COL Dennis K. Raymond, DSN 992-5305  
COMM 908/532-5305

PRODUCT MANAGER: Mr. Ronald F. Johnson, DSN 992-5293  
COMM 908/532-5293

PE & LINE #: E7086

DESCRIPTION: The DFCS controls transmit power of Defense Satellite Communications System (DSCS) carriers and monitors earth terminal and satellite network status and performance. The Network Terminal, AN/GSC-51 is installed in strategic satellite communications terminals. The satellite network data collected from these stations is transmitted via a Satellite Control Circuit to one of two Network Control Terminals (AN/FSC-96 or NCTs). Power Control Commands are calculated and transmitted to the Network Terminals for adjustment of Carrier Transmit Power. The Satellite Links within the DSCS are normally operated with a link margin of at least six decibel to accommodate uncontrollable signal transmission fades. The DFCS automatically detects and compensates for these transmission fades allowing the link margins to be reduced. This reduction in link margin allows channel capacity of the spacecraft to be significantly increased.

HISTORICAL BACKGROUND:

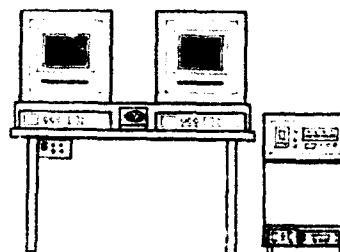
Aug 85 - Production contract award.  
Jul 87 - DFCS deliveries began.  
May 88 - DFCS installations at strategic locations began.

EVENT SCHEDULE:

FISCAL YEAR		93				94				95				96				97				98				99			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
TRANSITION	TBD																												

REQUIREMENTS DOCUMENT: DSCS FY85-89 Program Plan, Mar 83.

TYPE CLASSIFICATION: Standard approved Feb 84.



DFCS IS A GROUND BASED SUBSYSTEM USED WITH EARTH TERMINAL EQUIPMENT FOR CONTROLLING TRANSMIT POWER OF DSCS CARRIERS AND FOR MONITORING EARTH STATION AND SATELLITE NETWORK STATUS AND PERFORMANCE.

PM, SATCOM

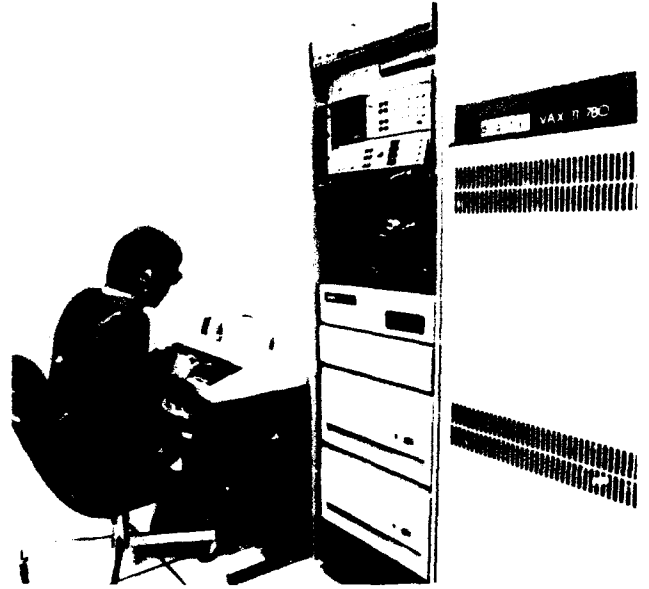
AN/FYQ-110 AND AN/FSQ-142 COMPUTER, OPERATION SUPPORT SYSTEM  
DOSS/SPECTRUM ANALYZER DASA (DOSS/DASA)

PROJECT MANAGER: COL Dennis K. Raymond, DSN 992-5305  
COMM 908/532-5305

PRODUCT MANAGER: Mr. Ronald F. Johnson, DSN 992-5293  
COMM 908/532-5293

PE & LINE #: BB509

DESCRIPTION: The DOSS provides computational support for the SATCOM Network Controller (and up to seven remote operators) to calculate Defense Satellite Communications System (DSCS) reconfiguration parameters in response to changing user requirements, changing network status, or changing environmental conditions. Contained within the DOSS is the Resource Allocation Software (RAS) consisting of the computer software which provides algorithms to support DOSS reconfiguration capabilities. The DASA is designed for operation connected directly to the DOSS or in a stand-alone mode, should this be required. The DASA provides control and data processing for an automatic spectrum analysis capability. DASA software accepts signal monitoring data from the Hewlett-Packard 8566B Spectrum Analyzer, computes various signal parameters based upon the current operational traffic configuration, the DOSS data base, and compares the measured values with the expected values generated by the DOSS Computer.



HISTORICAL BACKGROUND:

Feb 79 - Award for DOSS/DASA 1 and 2.  
May 84 - Award for DOSS/DASA 3 and 4.  
Aug 84 - Award for upgrade to existing DOSS/DASA systems.  
Mar 87 - DOSS/DASA 5 and 6 definitized (\$9M).  
Sep 88 - Awarded contract for DOSS/DASA 7 through 12.  
Feb 92 - Awarded contract to retrofit DOSS/DASA VAX 8250 computer.

REQUIREMENTS DOCUMENT: DSCS Program Plan FY86-90 approved Mar 84.

TYPE CLASSIFICATION: Standard approved Oct 87.

DOSS PROVIDES COMPUTATIONAL SUPPORT FOR THE SATCOM NETWORK CONTROLLER TO CALCULATE DSCS RECONFIGURATION PARAMETERS.  
DASA PROVIDES CONTROL AND DATA PROCESSING FOR AN AUTOMATIC SPECTRUM ANALYSIS CAPABILITY INTEGRATED WITHIN THE DOSS.

PM, SATCOM

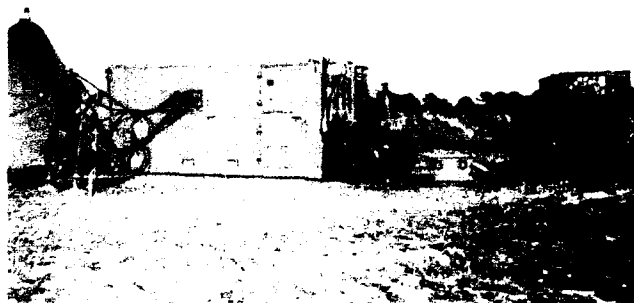
AN/GSC-49(V)1, AN/GSC-49(V)2, AND AN/GSC-49(V)3  
JAM RESISTANT SECURE COMMUNICATIONS (JRSC) TERMINALS

PROJECT MANAGER: COL Dennis K. Raymond, DSN 992-5305  
COMM 908/532-5305

PRODUCT MANAGER: Mr. William Anderson, DSN 992-0995  
COMM 908/532-0995

PE & LINE #: BA8300

DESCRIPTION: JRSC is an add-on to the Defense Satellite Communications System (DSCS) resulting from the Secretary of Defense requirement to improve Worldwide Military Communication Command and Control Systems (WWMCCS) capability of jam resistant secure communications via satellite. JRSC consists of Super High Frequency (SHF) Satellite terminals packaged to satisfy JRSC peculiar requirements.



HISTORICAL BACKGROUND:

Sep 80 - Production contract award.  
Mar 84 - First Unit Equipped.  
Jun 84 - Initial Operational Capability.  
Dec 86 - Last two terminals delivered.

REQUIREMENTS DOCUMENT: DSCS Program Plan.

TYPE CLASSIFICATION: Standard approved Aug 80.

JRSC PROVIDES JAM RESISTANT, SECURE COMMUNICATIONS ADD ON TO WWMCCS.

10/11/86 10 11

PM, SATCOM

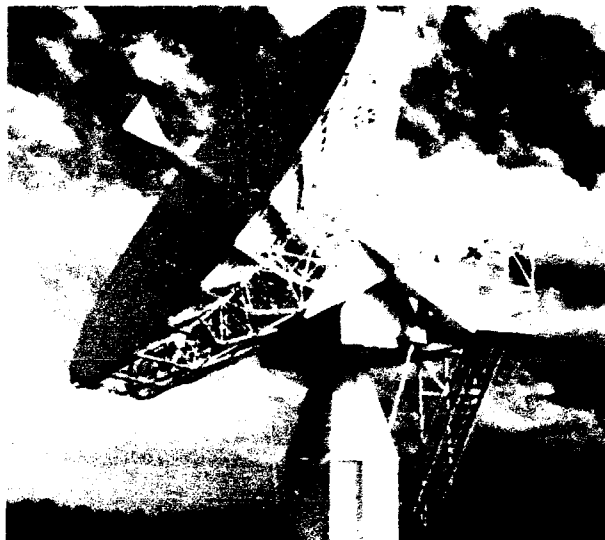
AN/GSC-52(V), STATE-OF-THE-ART MEDIUM TERMINAL (SAMT)

PROJECT MANAGER: COL Dennis K. Raymond, DSN 992-5305  
COMM 908/532-5305

PRODUCT MANAGER: Mr. William Anderson, DSN 992-0995  
COMM 908/532-0995

PE & LINE #: BB8507

DESCRIPTION: SAMT is a high-capacity, medium sized Super High Frequency (SHF) Satellite Communications Terminal designed to operate in the DSCS satellite network. The terminals will be operated by the various services under the operational control of Defense Satellite Communications System (DISA). This new system is characterized by computer aided fault isolation, hierarchial control (remote console and external control possible) and automatic equipment switch-over to redundant equipment with High-Altitude Electromagnetic Pulse (HEMP) protection in vans or fixed site buildings. SAMT includes a 38 foot OE-371/G antenna.



HISTORICAL BACKGROUND:

- Jan 81 - DSCS FY83-87 Program Plan approved by an Assistant Secretary of Defense (ASD) memorandum.
- Sep 82 - Production contract awarded.
- Dec 85 - First Unit Equipped.
- Jul 86 - MOA signed by USAISEC and USASATCOMA for installation of system numbers 10 - 39.
- Dec 86 - Initial Operational Capability.
- Nov 88 - Production phase completed; Thirty-six terminals are installed and operational, three terminals remain in storage to be delayed at a future date.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1				2				3				4				1				2			
FIELDINGS	!				!				!																			

REQUIREMENTS DOCUMENT: Defense Satellite Communications System (DSCS) FY83-87 Program Plan.

TYPE CLASSIFICATION: Standard approved Aug 82.

SAMT IS A HIGH-CAPACITY MEDIUM SIZED SHF SATCOM TERMINAL TO OPERATE IN THE DSCS NETWORK.

PM, SATCOM

AN/PSC-3 AND AN/VSC-7, SINGLE CHANNEL ULTRA HIGH FREQUENCY  
(UHF) SATELLITE COMMUNICATIONS TACTICAL TERMINALS

PRODUCT MANAGER: LTC Michael Mazzucchi, DSN 992-0994  
COMM 908/532-0994

PROJECT LEADER: Mr. William Duda, DSN 992-6108  
COMM 908/532-6108

PE & LINE #: SSN: K77200

DESCRIPTION: The AN/PSC-3 is a man-portable Satellite Communications Tactical Terminal. The AN/VSC-7 is a vehicular mounted version of the AN/PSC-3 with the following additional hardware: Applique, Shock Mount/Rack Mount Trays, High Gain Antenna, Antenna Mast, and Hand Set. These terminals provide a satellite communications capability primarily for Special Operations Forces and Army Ranger Units for use in forward areas or behind enemy lines. AN/PSC-3 is a rugged, lightweight portable device capable of being paged while in motion, providing positive visual and audible indications to the operator. It weighs less than 35 pounds including the RT-1402A/G, the medium gain antenna, low gain (whip) antenna, the handset H-250/U, and battery box with batteries. AN/VSC-7 will serve as the Net Control Station for up to 15 AN/PSC-3 Terminals. The procurement strategy for DOD requirements of AN/PSC-3 and AN/VSC-7 involves three production efforts. PM, SATCOM initiated a Materiel Change in order to enhance the basic terminals' satellite communications capability by adding Embedded COMSEC Demand Assigned Multiple Access (DAMA) and Over-The-Air-Rekey (OTAR). The Materiel Change is named the EMUT Phase II program.



HISTORICAL BACKGROUND:

May 79 - DEVA IPR.  
Sep 81 - First Production contract award.  
Aug 86 - Final Production contract award.  
Dec 90 - New power amplifier approved by PM, SATCOM; All fieldings halted due to Operation Desert Shield.  
Apr 91 - Last unit AN/PSC-3 delivered.  
Feb 93 - DA Directed Procurement for EMUT Program was amended. Phase II was incorporated into Phase I.

REQUIREMENTS DOCUMENT: TACSATCOM QMR approved Nov 71.

TYPE CLASSIFICATION: Standard approved Aug 86.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
TRANSITION					1																							

AN/PSC-3 AND AN/VSC-7 ARE SINGLE CHANNEL UHF SATELLITE COMMUNICATIONS TACTICAL TERMINALS.



PM, SATCOM

AN/PSC-5 ENHANCED MANPACK ULTRA HIGH FREQUENCY TERMINAL  
(EMUT)

PRODUCT MANAGER: LTC Michael Mazzucchi, DSN 992-0994  
COMM 908/532-0994

PROJECT LEADER: (Phase I): Mr. Robert Wilson, DSN 992-6108  
COMM 908/532-6108

PE & LINE #: SSN: K77200

DESCRIPTION: The Enhanced Manpack UHF Terminal (EMUT) Program will modify the existing inventory of radios to add Communications Security (COMSEC) and Demand Assigned Multiple Access (DAMA). EMUT will provide elements of the Special Operations Forces (SOF), and other designated units of the Army, Air Force, Navy, and Marine Corps with small, lightweight terminals for half-duplex, secure, data and digital voice communications through ultra high frequency (UHF) satellites. In addition to the satellite relay communications mode, the EMUT will be capable of communicating line-of-sight (LOS). EMUT will employ burst transmission to provide shared use of 5 and 25 kilohertz (kHz) channels on existing and planned satellite transponders. In addition, it will have the capability to access the satellite channels using DAMA techniques. Specifically, EMUT will use the Fleet Satellite (FLTSAT), commercial Leased Satellite (LEASAT) and UHF Follow-On satellite systems. LEA capabilities that the EMUT will use consist of the unprocessed 25 kHz Fleet Satellite Communications (AFSATCOM) segment. EMUT major components consist of R/T with embedded COMSEC and DAMA, battery box, satellite antenna, LOS antenna and handset. In the DAMA mode, the terminal will operate in conjunction with the Network Control Stations (NCS) of the Air Force UHF Satellite Terminal System (USTS) and the TD1271 B/U DAMA unit controlled by Navy's AN/USC-42(V)2 NCS.

HISTORICAL BACKGROUND:

Aug 88 - AMUT O&O Plan approved by TRADOC.  
Apr 89 - Funding transferred to Enhanced Manpack UHF Terminal (EMUT) Program.  
Apr 91 - DA directed procurement signed for EMUT program.  
Oct 92 - Solicitation issued for AN/PSC-5 EMUT Competitive FFP contract.  
Feb 93 - DA directed procurement amended. Phase II was incorporated into Phase I.  
Mar 93 - Source selection evaluation and sample hardware testing began.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1				1				1				1				1				1			
CONTRACT AWARD AN/PSC-5																												
TESTING																												
FIRST UNIT EQUIPPED																												
TYPE CLASSIFICATION IPR																												
INITIAL OPERATIONAL CAPABILITY																												
TRANSITION																												
TBD																												

REQUIREMENTS DOCUMENT: DA Directed Procurement.

TYPE CLASSIFICATION:

EMUT WILL PROVIDE ELEMENTS OF SOF, AND OTHER DESIGNATED UNITS OF THE ARMY, AF, NAVY, AND MARINE CORPS WITH SMALL, LIGHTWEIGHT TERMINALS FOR HALF-DUPLEX, SECURE, DATA AND DIGITAL VOICE COMMUNICATIONS THROUGH UHF SATELLITES.

PM, SATCOM

AN/TSC-85B AND AN/TSC-93B, TACTICAL SATELLITE  
COMMUNICATIONS TERMINALS

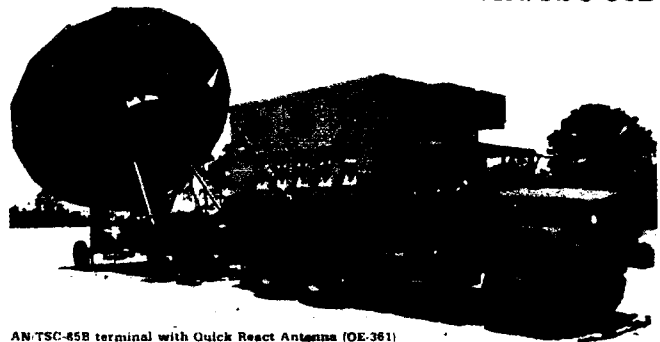
**AN/TSC-85B**

PROJECT LEADER: Mr. Eduardo Velez, DSN 992-3011  
COMM 908/532-3011

PRODUCT MANAGER: LTC Michael Mazzucchi, DSN 992-6105  
COMM 908/532-6105

PE & LINE #: SSN: BB8417

DESCRIPTION: The AN/TSC-85B and AN/TSC-93B are Super High Frequency (SHF) systems which provides reliable multichannel capacity satellite communications with an anti-jam capability. Both terminals operate with an eight foot diameter antenna through the Defense Satellite Communications System (DSCS) satellite network. AN/TSC-93B provides a capacity of 24 channels that can operate in a point to point mode or as a non-nodal terminal in a nodal network. AN/TSC-85B provides a capacity of 48 channels that can also operate in a point to point mode or as a nodal terminal in a nodal network. The Baseband Improvement Modification (BIM) is a directed program change by Joint Chiefs of Staff (JCS) to the Army Ground Mobile Forces (GMF) SHF program. This change increases and improves satellite efficiency and interoperability modes between Army (AN/TSC-85B, AN/TSC-93B) and Air Force (AN/TSC-100A, AN/TSC-94A) terminals. The terminals use spacecraft resources more efficiently while improving network management and control.



AN/TSC-85B terminal with Quick React Antenna (OE-361)

**AN/TSC-93B**



HISTORICAL BACKGROUND:

Jun 76 - LRIP contract awarded to RCA Corporation (AN/TSC-85, AN/TSC-93).  
Feb 79 - Full Scale Production approved.  
Sep 79 - Production contract awarded to Harris Corporation.  
Apr 85-Nov 85 - First production unit delivered; First Article Test; First Unit Equipped;  
Initial Operational Capability.  
Sep 86 - BIM awarded (AN/TSC-85B, AN/TSC-93B).  
Jul 92 - BIM Complete.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
TRANSITION						!																						

REQUIREMENTS DOCUMENT: TACSATCOM Qualitative Materiel Requirement approved 12 Nov 71.

TYPE CLASSIFICATION: LRIP terminals approved Apr 77; Standard approved Jul 85.

AN/TSC-85B AND AN/TSC-93B ARE SHF SYSTEM WHICH PROVIDES MULTICHANNEL CAPACITY SATELLITE COMMUNICATION WITH AN ANTI-JAM CAPABILITY.

PM, SATCOM

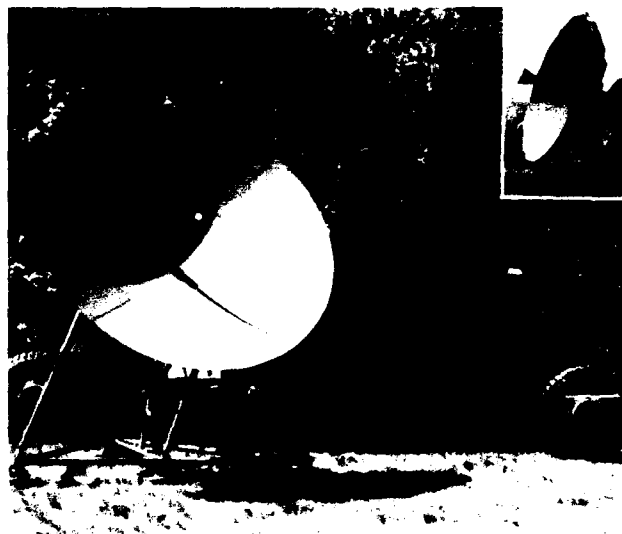
AN/TSC-94A AND AN/TSC-100A, MULTICHANNEL SUPER HIGH  
FREQUENCY SATELLITE COMMUNICATIONS TERMINALS

PROJECT LEADER: Mr. Peter Johnson, DSN 992-4291  
COMM 908/532-4291

PRODUCT MANAGER: LTC Michael Mazzucchi, DSN 992-0994  
COMM 908/532-0994

PE & LINE #: 739017Q2 (Air Force Equipment)

DESCRIPTION: The AN/TSC-94A and AN/TSC-100A, Ground Mobile Forces (GMF) multichannel Super High Frequency (SHF) Satellite Communications Terminals are shelter mounted. The terminals are full duplex trunking, and are utilized by the Air Force to provide subscriber voice channels or TRI-TAC groups. Both terminals provide a high order of component commonality, redundancy, and Built-In-Test-Equipment (BITE). In a stressed environment, both have the capability to operate with an Anti-Jam Control Modem (AJCM). AN/TSC-100A is capable of operating simultaneously with up to four AN/TSC-94A nodal terminals in a mesh or hub spoke mode. Both terminals use an 8 foot antenna or a 20 foot Quick Reaction Satellite Antenna (QRSAs). Both terminals inter-operate with the GMF AN/TSC-85B and AN/TSC-93B terminals.



HISTORICAL BACKGROUND:

Apr 82 - Production contract award.  
Feb 86 - First Article Test completed; First production deliveries.  
May 86 - Air Force Follow-on Operational Test and Evaluation (FOT&E) completed; Deliveries stopped due to FOT&E findings.  
Oct 86 - Deliveries resumed, problem corrected.  
Dec 89 - Last terminal delivered.  
Sep 91 - Engineering Change Proposal (ECP) awarded to General Electric Corporation (GE) to fabricate AJCM installation kits.

EVENT SCHEDULE

FISCAL YEAR QTR	93				94				95				96				97				98				99			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
TRANSITION					!																							

REQUIREMENTS DOCUMENT:

TYPE CLASSIFICATION: Not applicable as the Air Force is the only user.

AN/TSC-94A AND AN/TSC-100A ARE MULTICHANNEL SHF SATELLITE TERMINALS USED BY THE AIR FORCE TO PROVIDE SUBSCRIBER VOICE CHANNELS OR TRI-TAC GROUPS.

PM, SATCOM

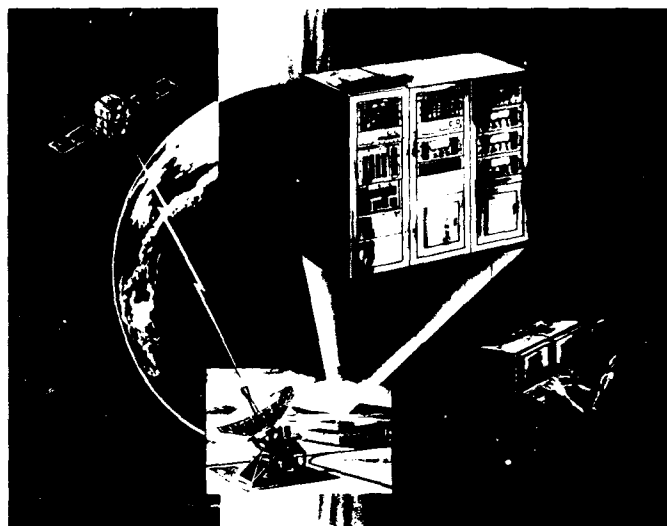
AN/TSQ-172, CONTINGENCY SATELLITE CONFIGURATION CONTROL  
ELEMENT (CSCCE)

PROJECT OFFICER: COL Dennis K. Raymond, DSN 992-5305  
COMM 908/532-5305

PRODUCT MANGER: Mr. Ronald F. Johnson, DSN 992-5293  
COMM 908/532-5293

PE & LINE #: BB8509

DESCRIPTION: The CSCCE is the portion of the Contingency DSCS Operations Control System (CDOCS) that is responsible for Command, Control, Telemetry processing, and status monitoring for anyone of three designated DSCS III Satellites during a crisis or contingency environment. The major functions of the CSCCE are to monitor and assess overall satellite performance, to detect satellite anomalies, to execute housekeeping operations, ORBIT determination and ephemeris generation, plan/execute stationkeeping, configuration control of the DSCS III Communications payload, and uplink jammer detection and location.



HISTORICAL BACKGROUND:

Dec 88 - Contract Award.  
Apr 90 - Software Critical Design Review (CDR).  
Dec 90 - Hardware Critical Design Review (CDR).  
Dec 91 - First Article Test (FAT).  
Aug 92 - Sep 93 - Delivery of PU# 1-6, and IF #2.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
DELIVERY PU# 2-6						!																						
INSTALL CSCCE IN ST VANS						!																						
PRODUCT ON-ORBIT TESTING										!																		

REQUIREMENTS DOCUMENT: DSCS PROGRAM PLAN FY88-92.

TYPE CLASSIFICATION: Limited Production, Urgent 30 Apr 87.

CSCCE IS THE PORTION OF THE CONTINGENCY DSCS OPERATIONS CONTROL SYSTEM (CDOCS) THAT IS RESPONSIBLE FOR COMMAND, CONTROL, TELEMETRY PROCESSING, AND STATUS MONITORING FOR ANYONE OF THREE DESIGNATED DSCS III SATELLITES DURING A CRISIS OR CONTINGENCY ENVIRONMENT.

PM, SATCOM

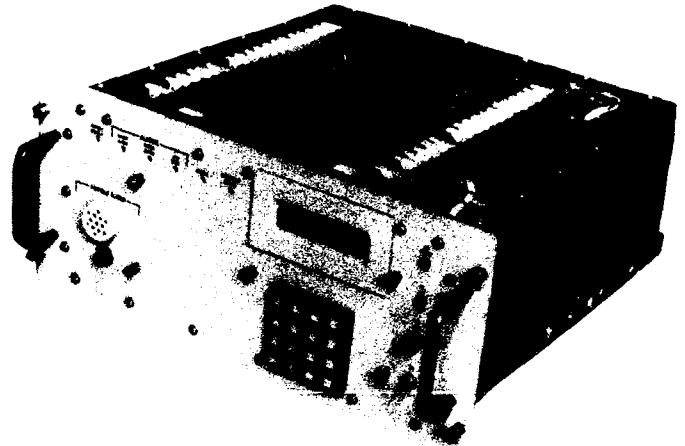
TD-1389(V), LOW RATE MULTIPLEXER (LRM)

PROJECT LEADER: Mr. Peter Johnson, DSN 992-4291  
COMM 908/532-4291

PRODUCT MANAGER: LTC Michael Mazzucchi, DSN 992-6105  
COMM 908/532-6105

PE & LINE #: SSN: BB8417

DESCRIPTION: The Ground Mobile Forces Satellite Communications (GMFSC) SHF multichannel initial system terminals require an anti-jam capability which will be provided by the Anti-Jam Control Modem (AJCM). AJCM requires an all-variable data input rate which will be provided by the LRM. LRM provides the multiplexing/demultiplexing of digital subscribers for multichannel operation of the AJCM. LRM allows for a composite output rate which is adaptive, permitting graceful degradation of service under stressed conditions. Thus, LRM allows maximum utilization of satellite capacity in a hostile environment. LRM is deployed as a replacement for the TD-560 as part of the BIM program to permit interoperability with the GMF community on a subscriber level under unstressed conditions.



HISTORICAL BACKGROUND:

Apr 82 - Production contract award.  
May 83 - Type Classification.  
Apr 86 - First production deliveries began.  
Sep 89 - Production contract award.  
Mar 91 - Deliveries started.  
Oct 91 - Deliveries completed.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
TRANSITION	TBD				!																							

REQUIREMENTS DOCUMENT: ROC approved, Jul 83.

TYPE CLASSIFICATION: May 83, Standard.

TD-1389(V) PROVIDES MULTIPLEXING/DEMULTIPLEXING OF DIGITAL SUBSCRIBERS FOR MULTICHANNEL OPERATION FOR BOTH STRESSED AND UNSTRESSED CONDITIONS.

PM, SATCOM

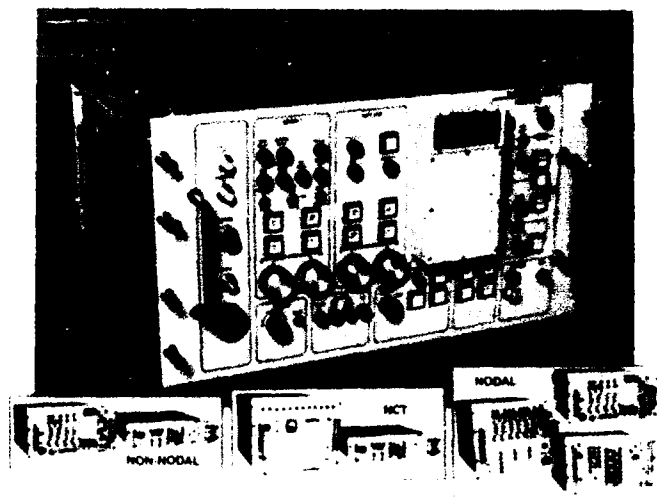
ANTI-JAM CONTROL MODEM (AJCM)

PROJECT LEADER: Mr. Italo Viliacis, DSN 992-3011  
COMM 908/532-3011

PRODUCT MANAGER: LTC M. Mazzucchi, DSN 992-6108  
COMM 908/532-6108

PE & LINE #: 1X533142.D456/BB8417

DESCRIPTION: The AJCM provides Electronic Counter Countermeasures (ECCM) protection for TACSATCOM Multichannel Initial System (MCIS) terminals being procured for use by the Ground Mobile Forces (GMF) of the three services. ECCM is achieved by utilizing spread spectrum techniques. The modems consist of a family of three devices which include a nodal unit, a non-nodal unit and a network control unit. The modems will become integral components of the host terminals (AN/TSC-85B, AN/TSC-93B, and AN/FSQ-124A). AJCM will also be used with Air Force Super High Frequency MCIS terminals AN/TSC-94A and AN/TSC-100A, and in the Defense Satellite Communications System (DSCS) GMF Control Link (DGCL) and Gateway Racks of the DSCS.



HISTORICAL BACKGROUND:

Sep 78 - Full Scale Development contract awarded to Harris Corporation.  
Sep 82 - Additional contract award to Harris Corporation for Added Capabilities Efforts (ACE).  
Aug 84 - IPR approved for Full Scale Production.  
Aug 85 - Production contract award for 221 units.  
Mar 89 - Deliveries began (ship in place).  
Nov 90 - Deliveries completed (in place).  
Aug 93 - Completed Phase II & III FOT&E.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
PRODUCTION CONTRACT	1																											
FIRST UNIT EQUIPPED					1																							
TRANSITION	TBD																											

REQUIREMENTS DOCUMENT: QMR for TACSATCOM approved 12 Nov 71 and amended Apr 80.

TYPE CLASSIFICATION: Type Classified with the host terminals (AN/TSC-85B, AN/TSC-93B and AN/TSQ-124).

AJCM UTILIZES SPREAD SPECTRUM TECHNIQUES TO ACHIEVE ECCM PROTECTION FOR TACSATCOM TERMINALS.

PM, SATCOM

DEFENSE SATELLITE COMMUNICATIONS SYSTEM ELECTRONIC COUNTER  
COUNTER MEASURES CONTROL SUBSYSTEM (DECS)

PROJECT MANAGER: COL Dennis K. Raymond, DSN 992-5305  
COMM 908/532-5305

PRODUCT MANAGER: Mr. Ronald F. Johnson, DSN 992-5293  
COMM 908/532-5293

PE & LINE #: BB8509

DESCRIPTION: The Defense Satellite Communications System (DSCS) Electronic Counter Counter Measure (ECCM) Control Subsystem (DECS) will provide automated control of the AN/USC-28 ECCM network to allow the most effective and efficient communications. This will ease the workload of the already overburdened network controllers and network terminal operators by performing line power monitoring and automated polling responses at the NTs. In addition, DECS will allow the ECCM network to operate in a stressed environment by alerting the network controller to the presence of a jammer or violator, analyzing the stress, and executing the proper network reconfiguration needed to null the effects of the stress.

HISTORICAL BACKGROUND:

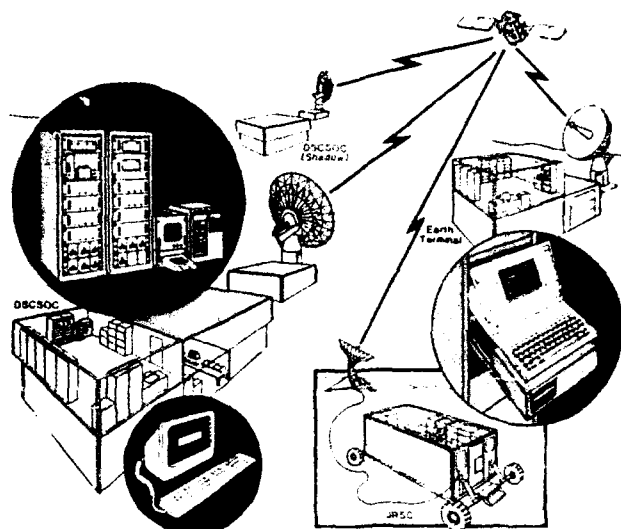
Apr 86 - Modified NDI acquisition approved (Milestone III).  
Jun 87 - DCA directed specification change.  
Sep 87 - DECS production award.

EVENT SCHEDULE:

FISCAL YEAR		93				94				95				96				97				98				99			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
TRANSITION	TBD																												

REQUIREMENTS DOCUMENT: DSCS Program Plan.

TYPE CLASSIFICATION: Standard approved Apr 86.



DECS PROVIDES AUTOMATED CONTROL OF THE ECCM NETWORK IN THE DSCS.

## PM SATCOM

### UNIVERSAL MODEM (UM)

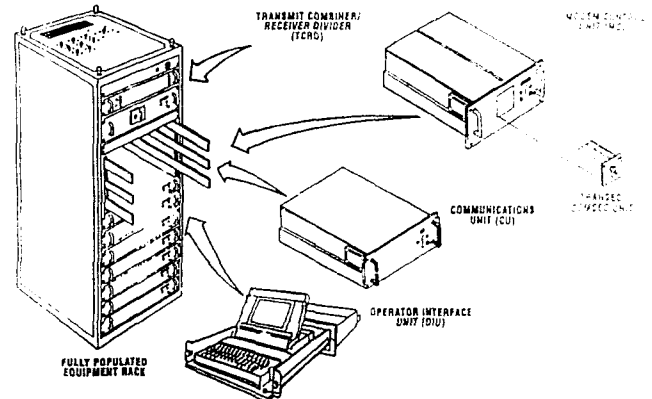
PROJECT MANAGER: COL Dennis K. Raymond, DSN 992-5305  
COMM 908/532-5305

PRODUCT MANAGER: Mr. Paul Kirzow, DSN 992-2938  
COMM 908/532-2938

PE & LINE: BA8300

DESCRIPTION: The Universal Modem System (UMS), which includes a family of modems and an Interim System Planning Computer (ISPC) will provide survivable, Anti-Jam (AJ), Anti-Scintillation (AS), Low Probability of Exploitation (LPE), interoperable, Super High Frequency (SHF), command and control connectivity for military forces during all phases of conflict. The UMS will provide a means for strategic and tactical forces under the command of the United States (US), United Kingdom (UK), France, or North Atlantic Treaty Organization (NATO) to have interoperable secure voice and digital data satellite communications under worst case jamming and nuclear scintillation while using non processing transponders of the Defense Satellite Communications System (DSCS) II and III, NATO III and IV, SKYNET 4, and TELECOM 2 satellite systems. The Universal Modem will be a replacement for the AN/USC-28(V), and OM-55(V)/USC. The Universal Modem will be configurable for installing at fixed sites, and on land based, ship based, and airborne terminals.

### **UNIVERSAL MODEM**



### HISTORICAL BACKGROUND:

Jun 89 - Transferred from Air Force to Army.  
Oct 90 - IPR.  
Mar 91 - Contract Development Award.

### EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1				2				3				4				1				2			
FULL SCALE DEVELOPMENT																												
LRIP PHASE																												
FULL SCALE PRODUCTION																												

REQUIREMENTS DOCUMENT: Defense Satellite Communications System (DSCS) Program Plan.

TYPE CLASSIFICATION: N/A

THE UNIVERSAL MODEM SYSTEM HAS BEEN DESIGNED FOR USE WITH US, UK AND NATO SHF SATELLITE SYSTEMS TO PROVIDE INTEROPERABILITY.



PM SINGARS

PM, SINCGARS

TD-1456/VRC, FREQUENCY HOPPING MULTIPLEXER (FHMUX)

PROJECT OFFICER: Ms. Terri Younger-McAuley, DSN 995-3060  
COMM 908/544-3060

PE & LINE #: 644805 DEV LIN: Z28333

DESCRIPTION: Tactical C3 vehicles frequently support installations of four radios and four whip antennas. The multiple antennas readily identify the vehicle as a C3 platform and invite enemy firepower. FHMUX will mask tactical C3 functions by reducing the vehicle's antenna visual signature. The FHMUX will allow up to four SINCGARS and/or VRC-12 radios, in frequency hopping or fixed frequency modes of operation, to use a single high power broadband antenna. The FHMUX will replace the manually tuned, fixed-frequency TD-1289 multiplexer currently in the Army inventory. Additional benefits of the FHMUX are a reduction of antenna setup and teardown times, and a well defined radio frequency isolation between radios to control cosite interference.



HISTORICAL BACKGROUND:

May 84 - Exploratory Development contract awarded to Xetron.  
Jun 86 - Two exploratory prototypes delivered.  
Jul 87 - O&O Plan approved.  
Sep 89 - FSD contract awarded to Xetron.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
SIXTEEN UNITS DELIVERED							!																					
OT&E								!																				
MDR III								!																				
MUX AWARD													!															
ANTENNA PROD AWD													!															
PRAT (MUX/ANT)																	!											
MATERIEL RELEASE																												
IOC																						!						

REQUIREMENTS DOCUMENT: ROC approved, May 91.

TYPE CLASSIFICATION:

FHMUX WILL EXTEND A MULTIPLEXING CAPABILITY TO SINCGARS FREQUENCY HOPPING RADIOS AND WILL REDUCE COSITE INTERFERENCE.

PM, SINGARS

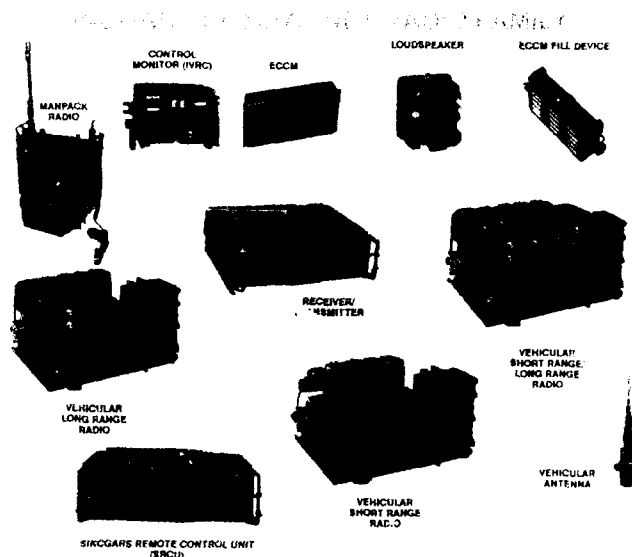
SINGLE CHANNEL GROUND AND AIRBORNE RADIO SYSTEM (SINGARS)

PROJECT OFFICER: GROUND: Mr. Dominic Satili, DSN 992-2521  
COMM 908/532-2521

AIRBORNE: Mr. Jim Goon, DSN 995-3054  
COMM 908/544-3054

PE & LINE #: 1T463746.D555; 1T464751.D282  
SSN: B00500; J30500; BA9102

DESCRIPTION: SINGARS is a new family of VHF-FM combat net radios which provides the primary means of command and control for Infantry, Armor and Artillery Units. SINGARS is designed on a modular basis to achieve maximum commonality among the various ground and airborne system configurations. A common Receiver Transmitter (RT) is used in the manpack and all vehicular configurations. SINGARS family of radios has the capability to transmit and receive voice, tactical data and record traffic messages and is consistent with NATO interoperability requirements. The system will operate on any of the 2320 channels between 30-88 megahertz and is designed to survive in a nuclear environment. COMSEC for the basic radio is provided by use of the VINSON device. An Integrated COMSEC (ICOM) version of the SINGARS is currently in production. SINGARS will be operable in a hostile environment through use of Electronic Counter Countermeasure (ECCM). SINGARS will replace the current standard manpack and vehicular radios, AN/PRC-77 and AN/VRC-12 family, respectively. An airborne version of the SINGARS radio is in production and will replace the currently standard aircraft radios, AN/ARC-114 and AN/ARC-131.



HISTORICAL BACKGROUND:

Jul 88 - Initial Ground contract awarded to General Dynamics.  
Apr 89 - Milestone IIIB (ITT); Airborne option 2 award.  
Dec 90 - Milestone IIIB ITT full rate (ICOM)/General Dynamics low rate; Ground ITT option 4 award; IOC (1st Division Equipped).  
Mar 91 - Ground General Dynamics Option 1 Award.  
Mar 92 - Ground and Airborne ITT award (PY-6/7).  
Jun 92 - First Article Test-General Dynamics.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
GD FULL RATE PROD REVIEW							!																					
GD OPTION 3 AWD							!																					
GD OPTION 3 DEL BEGIN													!															
ITT PY 8 AWD													!															
GD PY5 AWD													!															
ITT AIRBORNE PY 8 AWD													!															
ITT GROUND PY 7 DEL BEGIN													!															
ITT PY 8 DELS BEGIN																												

REQUIREMENTS DOCUMENT: ROC approved 19 Dec 74, updated 10 Jan 75; Joint Operational Requirement approved 26 Mar 76.

TYPE CLASSIFICATION: Non-ICOM, Standard A, 21 Sep 83; Airborne full rate production, 14 Dec 90; ITT ICOM Ground full rate production, 14 Dec 90, GD ICOM Ground Full Rate production, 18 Aug 93.

SINGARS PROVIDES VHF-FM (30-88 MEGAHERTZ) COMBAT NET RADIO COMMUNICATION WITH ECCM CAPABILITY (FREQUENCY HOPPING) AND DIGITAL DATA CAPABILITY (DATA RATE ADAPTER).

PEO IEW

PM COMBAT ID

PM, COMBAT ID

BATTLEFIELD COMBAT IDENTIFICATION SYSTEM (BCIS)

PRODUCT MANAGER: LIC Robert R. Sigl - DSN 996-5970  
COMM 908/544-5970

PE & LINE #: 64817.482      SSN: BA0510

DESCRIPTION: BCIS is a point of engagement question and answer system that will perform active identification of friendly targets to minimize fratricide on the battlefield. BCIS will be comprised of a combination of common interrogate and/or transpond components. The BCIS will be mounted on and integrated with selected Army ground and aviation platforms. BCIS will consider and not preclude integration on selected coalition platforms. Integration will be accomplished utilizing platform unique installation kits. To perform identification of targets on the battlefield, platforms equipped with interrogator components will transmit a coded signal toward the target of interest. Platforms equipped with transponder components will return a coded reply indicating their friendly status.

HISTORICAL BACKGROUND:

Jan 93 - RFP Release.  
Jul 93 - MS II Decision Review.  
Aug 93 - Contract Award.

EVENTS SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99						
	QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
CONTRACT AWARD					!																										
ENGINEERING & MANUFACTURING DEVELOPMENT					!	_____				!																					
PPQT-GT/LUT											!	_____!																			
LOW RATE PRODUCTION												!	_____				!														
MILESTONE III IPR																						!									

REQUIREMENTS DOCUMENT: Capstone O&O Plan, 15 Jan 91, Joint Mission Need Statement, 28 Mar 92, and Operational Rqmts Document 14 Apr 93.

TYPE CLASSIFICATION:

BCIS IS A FAMILY OF ACTIVE AND PASSIVE TECHNOLOGY SOLUTIONS TO ELIMINATE BATTLEFIELD FRATRICIDE.

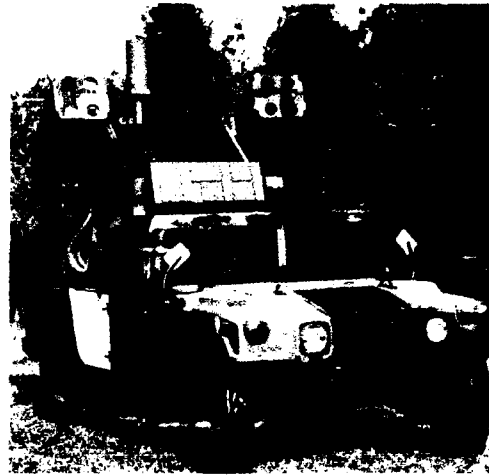
PM, COMBAT ID

NON-COOPERATIVE TARGET RECOGNITION (NCTR)

PRODUCT MANAGER: Mr. Michael Madden DSN 996-5016  
COMM 908/544-5016

PE & LINE #: 64817.D356 NCTR-1  
64817.D494 NCTR-4

DESCRIPTION: The NCTR devices provide passive identification of aircraft allowing air defense weapon systems to detect and engage targets at longer ranges than currently possible. The NCTR devices complement each other and cooperative Identification Friend or Foe (IFF) systems to permit operations at extended ranges while reducing the risk of targeting friendly aircraft. The devices consist of a sensor and processor interfacing with the host platform display. They will be integrated and deployed on individual air defense weapon systems.



HISTORICAL BACKGROUND:

Mar 90 - NCTR 4 Engineering and Manufacturing Development (EMD) contract award.  
Mar 91 - NCTR 1 Engineering and Manufacturing Development contract award.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
NCTR 1: AN/VSX-2 AVENGER EMD TEST																												
NCTR 4: AN/UPX-33 HAWK/GRS FMD TECHNOLOGY PROVE OUT																												

REQUIREMENTS DOCUMENT: NCTR 1: FAAD Capstone ROC, Jul 86; TAB D (ESM) Dec 91.

NCTR 4: ORD/ROC TAB C (HIMADS), Mar 90.

TYPE CLASSIFICATION:

NCTR DEVICES PROVIDE POSITIVE IDENTIFICATION OF AIRCRAFT FOR AIR DEFENSE WEAPON SYSTEMS OPERATORS.

PM EW/RSTA



PM, EW/RSTA

AN/TMQ-38 and AN/TMQ-41, METEOROLOGICAL MEASURING SET (MMS)

PRODUCT LEADER: Mr. Ken Chin, DSN 996-5877  
COMM 908/544-5877

PE & LINE #: SSN: K27800

**DESCRIPTION:** The MMS is an upper air meteorological data collection, processing and dissemination system. The system consists of a radiosonde carried aloft by a balloon and ground terminal. One MMS is deployed with each light division. MMS will provide the meteorological data to field artillery, target acquisition and air weather service units. The system provides pressure, relative humidity, temperature, wind speed and direction measurements to an altitude of 30 kilometers above the earth's surface. The ground terminal automatically acquires and tracks the radiosonde using NAVAID and Radio Direction Finding (RDF) techniques. In the NAVAID mode, the system is capable of using LORAN, or any combination of VLF/OMEGA transmissions, to determine the radiosonde's position. The ground system will receive telemetered temperature, pressure, humidity, and NAVAID data from the radiosonde and azimuth and elevation angular data from the RDF antenna assembly. It reports in standard formats for computer processing at the using units. The follow-on procurement of 23 systems will be a replacement for the Meteorological Data System (AN/TMQ-31) fielded to heavy divisions. This system will be shelter mounted and transported on an Heavy HMMWV. Additional capabilities and features include multiple radiosonde compatibilities and Lightweight Computer Unit.

## MMS System Hardware

PDF Tracking Antenna  
• Phased Array

Radiosondes  
Vaisala  
VIZ

Shelter  
• MET Processor  
• Digital Communications Terminal  
• Printer  
• VHF Radios  
• Multi Sonde Converter  
• Equipment Storage

### HISTORICAL BACKGROUND:

Aug 88 - ROC Approved.  
Feb 90 - Contract Award for seven systems for Light Forces.  
Mar 92 - Field to US Army Field Artillery School.  
Nov 92 - Fieldings Complete.  
Nov 92 - Contract Award for 23 systems for Heavy Divisions.

### EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
CONTRACT AWARD (23)			!																									
BUILD FAT SYSTEMS			!	_____			!																					
TEST SYSTEMS							!	_____	!																			
FIELD SYSTEMS													!	_____						!								

**REQUIREMENTS DOCUMENT:** ROC approved Aug 88.

**TYPE CLASSIFICATION:** Generic approved Sep 88. Standard.

MMS IS AN UPPER AIR METEOROLOGICAL DATA COLLECTION, PROCESSING AND DISSEMINATION SYSTEM.

PM, EW/RSTA

AN/USD-9A, IMPROVED GUARDRAIL V (IGR V)

PRODUCT MANAGER: LTC Michael Lustig, DSN 996-5680  
COMM 908/544-5680

PE & LINE #: SSN: AZ2100

DESCRIPTION: The IGR V is an airborne Communications Intelligence (COMINT) collection/location system. AN/USD-9A consists of airborne collection platforms (RC-120), AN/TSQ-105(V)4 Information Processing Facility (IPF), AN/TSC-116 Improved Commanders Tactical Terminal (ICTT), AN/ARW-83(V)5 Airborne Relay Facility (ARF), AN/AMR-163(V)4 Auxiliary Ground Equipment (AGE) and an Interoperable Data Link (IDL). Current major upgrade is to provide satellite remote capability for both IGRV and insertion into GUARDRAIL/Common Sensor.



#### HISTORICAL BACKGROUND:

Sep 81 - Contract award.  
Dec 84 - Materiel Release; System 1 fielded to V Corps.  
Dec 85 - System 2 fielded to VII Corps.  
Jul 93 - System 1 fielded to III Corps.

#### EVENT SCHEDULE

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3
*IROAN SYSTEM I		!																										
IROAN SYSTEM II		!																										
SYSTEM I FIELD (FORSCOM)		!																										
SYSTEM II FIELD (FT. MONMOUTH CECOM)					!																							

\*IROAN = Inspect and Repair Only as Needed.

REQUIREMENTS DOCUMENT: Materiel change to GUARDRAIL; ROC approved, 1979.

TYPE CLASSIFICATION:

IGR V IS AN AIRBORNE COMINT COLLECTION/LOCATION SYSTEM.

PM, FW/RSTA

AN/USD-9C, GUARDRAIL/COMMON SENSOR (GR/CS)

PRODUCT MANAGER: LTC Darell Lance, DSN 996-5211  
COMM 908/544-5257

PE & LINE #: 3.58.85G SSN: A02005 & AZ2000

**DESCRIPTION:** The GR/CS is a Corps Level Airborne Signal Intelligence (SIGINT) collection/location system. GR/CS integrates the Improved GUARDRAIL V (IGR V), Communication High Accuracy Airborne Location System (CHAALS), and the Advanced QUICKLOOK (AQL) into the same SIGINT platform. One GR/CS system is authorized per Aerial Exploitation Battalion (AEB) in the MI Brigade at each Corps. Each system consists nominally of twelve aircraft which normally fly operational missions in sets of three. GR/CS provides near real-time SIGINT and targeting information to Tactical Commanders throughout the corps area with emphasis on Deep Battle and Follow-on Forces Attack support. The airborne elements are integrated into the RC-12K/P aircraft. Ground processing is conducted in the Information Processing Facility (IPF). Interoperable Data Links (IDL) provide microwave connectivity between the airborne elements and the IPF. Reporting is accomplished via Commanders Tactical Terminals (CTT). Key features include integrated COMINT and ELINT reporting, enhanced signal classification and recognition, fast Direction Finding (DF), precision emitter location, and an advanced integrated aircraft cockpit. Preplanned product improvements include frequency extension, computer assisted on-line sensor management, upgraded data links and the capability to exploit a wider range of signals.



**HISTORICAL BACKGROUND:**

Jun 84 - Contract awarded for GR/CS Systems 3 and 4.  
Dec 88 - GR/CS (minus) System 3 fielded to Korea.  
Jun 89 - RC-12K Production award (System 1).  
Aug/Sept 90 - GR/CS Systems 1 and 2 IPF and ARF Production contracts awarded.  
Aug 91 - GR/CS System 4 fielded to USAREUR.  
Jun 93 - GR/CS FY94-99 Program and Acquisition Plan approved by HQDA.

**EVENT SCHEDULE:**

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
REMOTE RELAY																												
SYSTEM 1																												
SYSTEM 2																												

**REQUIREMENTS DOCUMENT:** ROC, 1 Oct 84, updated Nov 85 and revised in Apr 92.

**TYPE CLASSIFICATION:**

GR/CS IS A CORPS LEVEL AIRBORNE SIGINT COLLECTION/LOCATION SYSTEM.

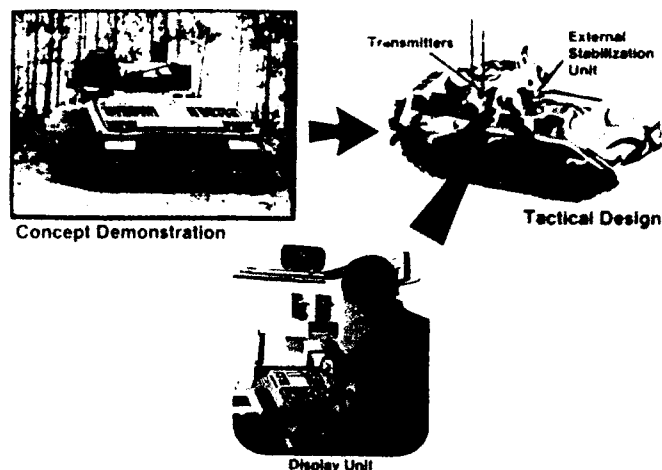
PM, EW/RSTA

AN/VLQ-7(), STINGRAY COMBAT PROTECTION SYSTEM

PROJECT OFFICER: Mr. Chris Keller, DSN 996-5456  
COMM 908/544-5456

PE & LINE #: 63270.DK18

DESCRIPTION: The STINGRAY Combat Protection System (CPS), is an electro-optical countermeasures system for the area protection of ground combat vehicles. STINGRAY is an adjunct to the Bradley Fighting Vehicle Systems (BFVS) and has potential application to a variety of other current and future platforms (e.g., other tracked vehicles, wheeled vehicles, light armored vehicles). Additional details concerning the STINGRAY program are classified. The present acquisition strategy is to develop technology demonstrators as adjuncts to the Bradley Fighting Vehicle. These systems will be placed in operational usage to support operational testing and training/doctrine evaluation. STINGRAY's principal operational use is as a countermeasures system and it is functionally categorized as an electronic warfare system. It also provides a unique target acquisition capability for host forces.



HISTORICAL BACKGROUND:

Jul 92 - Revised Acquisition Decision Memorandum (ADM) signed.  
Oct 92 - ATD Contract awarded.  
Mar 92 - Phase I Simulation performed.  
Feb 92 - Hardware PDR.  
May 92 - Software PDR.  
Jul 92 - Hardware CDR.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ADVANCED TECHNOLOGY DEMONSTRATION (ATD)					!																							
SIMULATION PROGRAM					!																							
TECHNOLOGY INSERTION													!												!			

REQUIREMENTS DOCUMENT: ROC, Apr 90.

TYPE CLASSIFICATION:

STINGRAY CPS IS AN ELECTRO-OPTIC PROTECTION OF GROUND COMBAT VEHICLES.

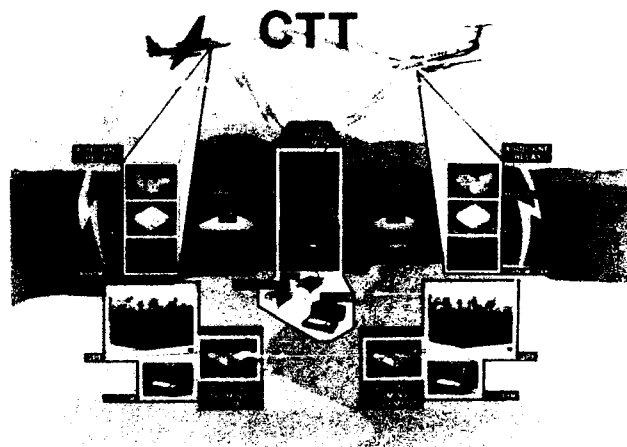
PM, EW/RSTA

COMMANDERS TACTICAL TERMINAL (CTT)

PRODUCT MANAGER: Mr. Hank Wollman, USN 996-5214  
COMM 908/544-5214

PE & LINE #: SSN: V29600

DESCRIPTION: The Commanders Tactical Terminal is a family of special application UHF Line of Sight (LOS)/Satellite Communications (SATCOM) Secure Intelligence dissemination reporting system for deployment with tactical units. The system uses airborne and satellite relay platforms to provide robust, reliable, jam resistant targeting and intelligence data and voice connectivity throughout the battlefield. The terminals deliver critical time sensitive battlefield targeting information and scout/eye or target information to tactical commanders and intelligence nodes at all echelons, in near real time (NRT) at collateral and system high security levels. The terminals provide direct secure, and dedicated connectivity/interoperability for rapid targeting, threat avoidance, battle management/mission planning and sensor queuing. The equipment can be mounted in fixed and rotary wing aircraft, surface, and fixed or mobile ground platforms and vehicles. The CTT/H and CTT/H-R are critical links in providing NRT intelligence to tactical commanders at different echelons throughout DoD to facilitate reaction inside the enemies decision loop.



HISTORICAL BACKGROUND:

Jun 83 - JSOR approved - Updated Apr 92.  
May 88 - Low Rate Initial Production Decisions.  
Sep 89 - Contract Management Transfer from USAF to US Army.  
May 92 - Production Baseline Changed from 1 Channel to 3 Channel  
Mar 93 - Successful Completion of Operational Limited User Test (LUT).

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
LRIP TECH TEST																												
LRIP OPERATIONAL LUT																												
LRIP FLDG TO V AND XVIII CORPS																												
CTT 2 CH FIELDING																												
CTT 3 CH TECH TEST																												
CTT 3 CH BFA INTEG																												
CTT 3 CH FIELDING																												

REQUIREMENTS DOCUMENT: JSOR approved Jun 83 and revised 24 Apr 92 to include the CTT/H and CTT/H-R.

TYPE CLASSIFICATION: TC-STD FY95.

CTT IS A SECURE INTELLIGENCE REPORTING DEVICE.

PM, EW/RSTA

IMPROVED-REMOTELY MONITORED WIDEFIELD SENSOR SYSTEM  
(I-REMBASS)

PROJECT LEADER: Mr. Ken Chin, DSN 996-5877  
COMM 908/544-5877

PE & TIME #: 23751.D475 SSN: BP1002

DESCRIPTION: The I-REMBASS is an all weather, day/night, passive, ground-based unattended sensor system. It is a downsized derivative of the fielded REMBASS systems. I-REMBASS will use three types of sensors (passive IR, magnetic, and seismic-acoustic). It will also contain the AN/PSQ-7 Monitor Programmer and a small, lightweight radio repeater, RT-1175A/GSQ. I-REMBASS will be fielded to the Special Operations Forces (SOF) for ground surveillance in deep penetration/denied area operations, in Low Intensity Conflict (LIC), and for surveillance of hostile activity behind enemy lines. It detects moving targets and classifies them as personnel, wheeled vehicles or tracked vehicles. The system transmits real time reports on activity within the sensor's detection radius. The I-REMBASS utilizes either lithium or alkaline batteries and has a graphics software package in Ada for graphics display on an MS-DOS based lap top computer.

HISTORICAL BACKGROUND:

May 92 - Type Classified - Standard.  
Jun 92 - Production Contract Award.  
Feb 93 - Emergency Fielding.  
Aug 93 - Final Buy-Out Award.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
PRODUCTION									!																			
MATERIEL RELEASE					!																							
FUE SOF					!																							
FUE FORSCOM					!																							
COMPLETE FIELDING									!																			

REQUIREMENTS DOCUMENT: ROC approved Nov 86.

TYPE CLASSIFICATION: Standard approved 3QFY92.

I-REMBASS IS AN ALL WEATHER, DAY/NIGHT, PASSIVE, GROUND-BASED UNATTENDED SENSOR SYSTEM.

PM JPSD

PM, JPSD

JOINT PRECISION STRIKE DEMONSTRATION (JPSD)

PROJECT MANAGER: COL John Fricas

DSN 289-5720  
COMM (703)756-5720

PE & LINE #: 63238/D117

DESCRIPTION: Precision Strike, one of a series of Science and Technology Thrusts initiated by the Director of Defense, Research and Engineering (DDR&E) in 1991, is a set of integrated capabilities, from sensors to shooters, to locate, identify and kill high-value, time-sensitive, tactical targets, in adverse weather conditions, day or night, and to provide the Commander with near real-time battle damage assessment. The Joint Precision Strike Demonstration (JPSD) is the Army's portion of the DoD Precision Strike Thrust. It will address today's restrictive, time consuming process of target detection, identification, planning, attack and damage assessment primarily from an Army perspective. JPSD will incrementally demonstrate PS improvements over a series of six demonstrations through 1999.

HISTORICAL BACKGROUND:

22 Jan 92 - DDR&E Initiates seven key Science & Technology Thrust with Army responsible for Precision Strike.  
03 Feb 92 - Joint Precision Strike Demonstration (JPSD) Task Force began operation.  
11 Feb 92 - Army Acquisition Executive designated Program Executive Officer for Intelligence & Electronic Warfare as Army lead for Joint Air/Land/Sea Precision Strike.  
12 Aug 92 - First Light Demo for the CSA.  
Mar 93 - Let RFP for the Integration and Evaluation (I&E) Node at the Topographic Engineering Center.  
27 Sep 93 - Awarded I&E Node contract.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
PROTOTYPE ATD				!																								
BEYOND LINE-OF-SIGHT UAV ATD				!																								
JPSD BASELINE					!																							
SURFACE TO SURFACE ATD						!																						
ROTORCRAFT ATD								!																				
LOW INTENSITY CONFLICT ATD									!																			
INTEGRATED PRECISION STRIKE THRUST ATD													!								!							
INTEGRATED MULTI-THRUST ATD																								!				

REQUIREMENTS DOCUMENT: ROC Not Required; Program is ATD.

TYPE CLASSIFICATION: N/A

JOINT PRECISION STRIKE, THE ARMY'S PORTION OF THE DDR&E PRECISION STRIKE THRUST, WILL LEVERAGE AND DEMONSTRATE EMERGING TECHNOLOGIES TO MEET CINC REQUIREMENTS FOR REDUCED SENSOR-TO-SHOOTER AND BATTLE DAMAGE ASSESSMENTS TIMELINES.



PM JSTARS

PM, JSTARS

AN/TSQ-132, JOINT STARS RADAR GROUND STATION MODULE

PROJECT MANAGER: COL JAMES MITCHELL, DSN 996-5165  
COMM 908/544-5165

PE & LINE #: 64770.D202; SSN: BA1080

DESCRIPTION: The Joint Star (JS) Radar Ground Station Module (GSM) is a Mobile Multisensor Imagery Intelligence (IMINT) Tactical Data Processing and Evaluation Center. GSM is a subcomponent of a joint Army/Air Force program whose other major component is the E-8 airborne platform. JS system is designed to detect, locate and track moving and stationary equipment ground targets located beyond the FLOT. GSM disseminates intelligence and target data to Army C3I nodes via wire or radio enabling integrated battle management, surveillance, targeting and interdiction plans to be developed/executed using near real-time data. In FY88, GSM program was restructured to capture all user requirements, to synchronize GSM and E-8 fieldings, and field GSMs in time to support other programs. In order to achieve these objectives, the existing IGSM will be enhanced in a phased effort (Block I Medium and Light). Block I improvements entail open systems architecture using standard industry computer modules, increased operational capabilities and enhanced modularity of line replaceable units for commonality/standardization for subsequent export to other Intelligence and Electronic Warfare systems. Extensive Manpower and Personnel Integration (MANPRINT) design objectives [for example the use of new and user friendly Man-Machine Interface (MMI)] are being incorporated. Block I light improvements integrate Block I Medium mission equipment and functions into a High Mobility Multipurpose Wheeled Vehicle (HMMWV) for light forces operational capability. There is a Block II Ground Station Module (GSM), also known as the Common Ground Station (CGS) which is a next generation IEW system. Leveraging off the Block I's open architecture and common module approach, the Block II will incorporate other sensor data providing Tactical Commanders a comprehensive and common view of the battlefield. There will also be a Block II Heavy CGS that will use the Command and Control Vehicle (a Bradley Fighting Vehicle variant) to meet Nuclear, Biological, Chemical requirements.



HISTORICAL BACKGROUND:

May 82 - USDR directed joint program combining AF PAVE MOVER and Army's SOTAS programs.  
Dec 88 - GSM program restructured into Block Approach  
Jul-Oct 90 - Nine LPU GSMs fielded.  
Nov 90 - GSMs fielded to Operation Desert Shield.  
May 92 - Block I Light Engineering Manufacturing Development (EMD) contract award.  
Aug 93 - Low Rate Initial Production (LRIP) of 12 MGSM Approved by Defense Acquisition Executive.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
BLOCK I MEDIUM: LRIP FIELDINGS																												
BLOCK I LIGHT: EMD PRODUCTION FIELDINGS																												
BLOCK II CGS: PRODUCTION																												

REQUIREMENTS DOCUMENT: ROC approved Apr 86; JSOR approved Nov 92; Revised ROC approved 18 Nov 92.

TYPE CLASSIFICATION: LPU approved Dec 86; IGSM-LPU scheduled 4QFY92; GSM Block I Medium LRIP 4QFY93; GSM Block I Heavy scheduled FY96; GSM Block I Light scheduled 1QFY95.

JS RADAR GSM IS A MOBILE MULTISENSOR IMINT TACTICAL DATA PROCESSING AND EVALUATION CENTER.

PM NVEO

PM, NVEO

AN/AVS-6, AVIATION NIGHT VISION IMAGING SYSTEM (ANVIS)

PROJECT LEADER: Ms. Jennifer McCormick, DSN 656-3277  
COMM 703/806-3277

PE & LINE #: SSN: K35601

DESCRIPTION: The ANVIS is a lightweight, high performance passive third generation image intensifier system designed specifically for use by helicopter pilots during night flights including Nap-of-the-Earth (NOE) missions. ANVIS is designed to recognize terrain obstacles at an altitude of 200 feet and below, at a maximum speed of 150 knots and at light levels down to overcast starlight. The system mounts on an SPH-4 helmet using a mount assembly that replaces the normal visor. When not in use, the binocular assembly can be flipped up and/or easily removed from the helmet if necessary. ANVIS consists of a binocular system with each monocular unit composed of an objective lens assembly, an 18mm (MX10160) third generation image intensifier tube assembly, and an eyepiece assembly. Fielding is two per attack helicopter (AH-1 only), three per utility helicopter, four per cargo helicopter (CH-47) and two per scout helicopter.



HISTORICAL BACKGROUND:

3QFY89 - Accelerated production authorized, funding increased \$7M in FY90 and FY91.  
1989 - San Francisco earthquake caused slight production delays at Varian.  
Dec 89 - Completed corrections for humidity problem.  
Feb 90 - 100% phase-in of improved fiber optics to correct distortion problem.  
Mar 90 - OMNIBUS II contracts awarded to ITT (6022 units) and EOS (formerly Varian, 4019 units).  
Nov 92 - OMNIBUS III Contracts awarded to ITT (600) and Litton (400)

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
PRODUCTION (OMNIBUS II)	_____!																											
OMNIBUS III: AWARD DELIVERIES	_____ !				_____!																							

REQUIREMENTS DOCUMENT: MIL-A-49425, MIL-A-49426, MIL-A-49427, MIL-A-49428 and MIL-A-49429.

TYPE CLASSIFICATION: Standard approved Sep 82.

ANVIS IS A LIGHTWEIGHT, HIGH PERFORMANCE PASSIVE THIRD GENERATION IMAGE INTENSIFIER SYSTEM DESIGNED SPECIFICALLY FOR HELICOPTER PILOTS DURING NIGHT FLIGHTS INCLUDING NOE MISSIONS.

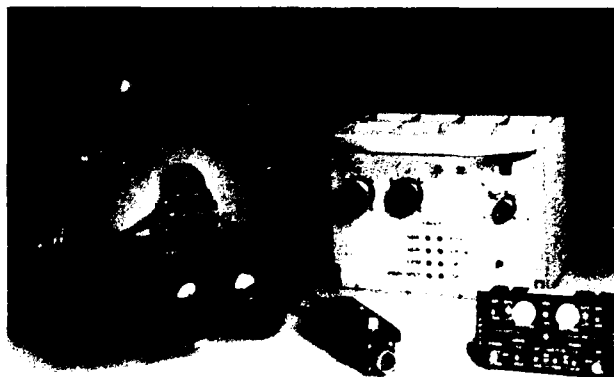
PM, NVEO

AN/AVS-7, AVIATION NIGHT VISION IMAGING SYSTEM/  
HEADS UP DISPLAY (ANVIS/HUD)

PROJECT LEADER: Mr. David Troxel, DSN 656-3277  
COMM 703/806-3277

PE & LINE #: SSN:

DESCRIPTION: The Heads Up Display is a modification to the AN/AVS-6, Aviators Night Vision Imaging System. It will collect and display critical flight information from aircraft sensors and convert this information into visual imagery. This system will allow continuous heads up flight by the pilot while reducing the pilots need to look inward at the flight instrument panel.



HISTORICAL BACKGROUND:

Sep 91 - NDI Integration contract award.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
UH-60 MODIFICATION INITIAL PRODUCTION TEST								1																				
UH-60 MODIFICATION FOT&E						1	1																					
UH-60 WITH AN/AVS-7 FUE								1	1																			
UH-60 MODIFICATION PRODUCTION								1								1												
OTHER AIRCRAFT MODIFICATION PRODUCTIONS:																												
CH-47D								1								1												
UH-1H/V									1							1												
AH-1F													1					1										
OH-58A																1				1								
OH-58C																							1					

REQUIREMENTS DOCUMENT: Feb 91 update to Night Vision ROC.

TYPE CLASSIFICATION: Currently Generic, going for Standard in 2QFY94.

ANVIS/HUD IS A MODIFICATION TO THE AVIATORS NIGHT VISION IMAGING SYSTEM AN/AVS-6 WHICH PROVIDES CONTINUOUS HEADS UP FLIGHT BY THE PILOT.

PM, NVEO

AN/PAQ-4B, INFRARED AIMING LIGHT

PROJECT LEADER: Mr. Tim McCaffery, DSN 656-3277  
COMM 703/806-3277

PE & LINE #: SSN: K35000

DESCRIPTION: The AN/PAQ-4B is an infrared aiming light which is attached to the M16 (A1, A2) Rifle, M60 Machine Gun, M2 Machine Gun, M249 SAW, M4 Rifle. AN/PAQ-4B sends out an invisible pulsing light beam along the Line-of-Sight. Visible only with night vision goggles, the projected spot of light appears at the exact point where the weapon is aimed. The fired round impacts in the center of the spot of light on the target when properly boresighted. Fielding is two per infantry squad.



HISTORICAL BACKGROUND:

1979 - First Production contract award awarded to Ni-Tech for 1156 units (\$625 each). (AN/PAQ-4).  
1982 - First Unit Equipped; Units sent to SOF.  
Feb 89 - SOUTHCOM requested units for mission requirements; Production contract awarded to Insight Technology for 10,800 units (AN/PAQ-4A).  
Mar 92 - Production awarded to Insight technology (multi-year buy out). (AN/PAQ-4B)

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
FOLLOW-ON PRODUCTION																												

REQUIREMENTS DOCUMENT:

TYPE CLASSIFICATION:

THE AN/PAQ-4B IS AN INFRARED AIMING LIGHT ATTACHED TO THE M16 (A1 & A2) RIFLE, M60 MACHINE GUN, M2 MACHINE GUN, M249 SAW AND M4 RIFLE THAT SENDS AN INVISIBLE PULSING LIGHT BEAM ALONG THE LINE-OF-SIGHT.

PM, NVEO

AN/PAS-13, THERMAL WEAPON SIGHT (TWS)

PROJECT OFFICER: Mr. Paul Laster, DSN 656-3277  
COMM 703/806-3277

PE & LINE #: 64710.DL70 SSN: Y22900

**DESCRIPTION:** The TWS is a class of low cost, light-weight, manportable infrared imaging devices of medium to high resolution to be used for surveillance fire control of individual and crew served weapons during both daylight and darkness. TWS will operate in adverse weather and battlefield scenarios containing light foliage, smoke, dust and camouflage. TWS will provide early warning, enhance the security of defensive positions, and facilitate offensive operations. The TWS System will be deployed world-wide. TWS replaces AN/PVS-4 and AN/TVS-5 weapon sights. Fielding is three per infantry squad, infantry and other select units.



#### HISTORICAL BACKGROUND:

- 1981 - Advanced Development contracts were awarded to Hughes Aircraft Company (HA) and Rockwell International (RI).
- 1983 - Night Imaging Thermal Equipment (NITE) Letter of Agreement for TWS.
- 1986 - RI terminated.
- 1987 - Four Advanced Development units delivered; DT/OT I initiated and completed.
- 1989 - Acquisition Plan approved; O&O Plan encompassing TWS and Short Range Thermal Sight (SRTS) capabilities approved; SRTS/TWS thermal technologies successfully demonstrated in Panama under full jungle canopy per SOUTHCOM request.
- 1990 - Engineering and Manufacturing Development (EMD) contract awarded to Hughes Aircraft Company.

#### EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
EMD																												
DT/OT II																												
IPR III/TC STD																												
PRODUCTION CONTRACT AWARD																												

REQUIREMENTS DOCUMENT: ROC, 1990.

TYPE CLASSIFICATION: Standard schedule for 1QFY95 @ IPR III.

TWS IS A CLASS OF LOW COST, LIGHTWEIGHT, INFRARED IMAGING DEVICES OF MEDIUM TO HIGH RESOLUTION TO BE USED FOR FIRE CONTROL OF INDIVIDUAL AND CREW SERVED WEAPONS DURING BOTH DAYLIGHT AND DARKNESS.

PM, NVEO

AN/PLQ-5 LASER COUNTERMEASURE SYSTEM (LCMS)

PROJECT MANAGER: Mr. William Smith, DSN 656-4280  
COMM 708/806-4280

PE & LINE #: 64710d170 SSN: K38400

DESCRIPTION: The LCMS meets the requirements to acquire a system which can be employed by the individual soldier to find and disrupt threat optical and electro-optical surveillance devices. Suppression of devices will provide enhanced protection and effectiveness for US forces. LCMS provides friendly forces the ability to engage ground and aerial vehicles at standoff ranges. LCMS also has capability to provide covert illumination for fire direction, improved night vision sighting and landing zone marking. Target acquisition functions are self contained and a stand-alone capability will be demonstrated. Phase II program may also include range determination, target designation, wave length diversity, and longer effective range.



HISTORICAL BACKGROUND:

- 1983 - Handheld laser counter measure concept was originated by the USMC.
- 1989 - Army conducted CEP testing and follow-devices.
- Sep 91 - USAIS generated a requirement which was approved by TRADOC.
- Feb 92 - AN/PLQ-5 contract was awarded.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
E&MD																												
SYSTEM DELIVERY																												
FDT&E																												
DT II																												
OT II																												
MS III IPR																												

REQUIREMENTS DOCUMENT: Required Operational Capability (ROC) - 12 Sep 91.

TYPE CLASSIFICATION: Standard - scheduled for 2QFY95.

LCMS IS A LASER SYSTEM DESIGNED TO PROVIDE THE INFANTRY SOLDIER THE CAPABILITY TO FIND AND DISRUPT GROUND AND AERIAL THREAT OPTICAL AND ELECTRO-OPTICAL SURVEILLANCE DEVICES.



PM, NVFO

AN/PVS-7A AND AN/PVS-7B, NIGHT VISION GOGGLES

PROJECT OFFICER: Mr. John Spadafore, DSN 656-4276  
COMM 703/806-4276

PE & LINE #: SSN: K36400

DESCRIPTION: The AN/PVS-7A and AN/PVS-7B are lightweight, high performance passive third generation image intensifier systems. The goggle assembly is a headmounted self contained night vision system containing one monocular unit consisting of an objective lens assembly, an image intensifier tube and a binocular eyepiece assembly. The frame is mounted to a face mask assembly which is held by head straps to the user's head. The assembly incorporates an infrared (IR) light source which provides illumination, to permit close-in-viewing. Fielding is five per infantry squad/battalion and 298 to combat support/combat service support units. AN/PVS-7A and AN/PVS-7B are single tube Image Intensifier systems which replace the earlier AN/PVS-5 binocular second generation image intensifier goggle. All AN/PVS-7B systems are presently being delivered with third generation tubes (M-10130). The AN/PVS-7A is no longer being procured.



HISTORICAL BACKGROUND:

Feb 88 - Initial fielding to 7th ID Ft. Hood.  
Dec 89 - Delivered 43846 units (Army).  
Feb 89 - Life Cycle Cost Study indicated no preference for AN/PVS-7A over the AN/PVS-7B.  
Oct 89 - ITT/Varo and Litton delivered Level III Technical Data Packages to Government at no cost.  
Mar 90 - Three-year Production contract awarded to ITT and EOS.  
Nov 92 - Five year multi-year production contracts awarded to ITT and Litton.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
OMNIBUS II PRODUCTION					!																							
OMNIBUS III: AWARD DELIVIERIES	!								!																			

REQUIREMENTS DOCUMENT: TRADOC ACN 36829, 21 Jan 82.

TYPE CLASSIFICATION: Standard approved Feb 88.

AN/PVS-7 IS A HEADMOUNTED SELF CONTAINED NIGHT VISION GOGGLE FOR CLOSE-UP VIEWING BY THE INDIVIDUAL SOLDIER TO PERFORM TASKS AT NIGHT.

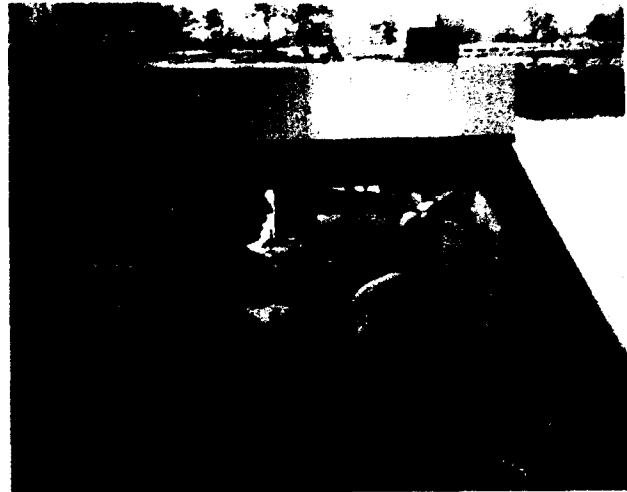
PM, NVEO

DRIVER'S VISION ENHANCER (DVE)

PROJECT OFFICER: Mr. Donald A. Ferrett, DSN 656-3275  
COMM 703/806-3275

PE & LINE #:

DESCRIPTION: DVE is a passive thermal imaging system designed to provide drivers of tactical wheeled vehicles with the capability to continue normal driving operations in all ambient light levels and in the presence of natural and man-made obscurants. Combat Support/Combat Service Support Operations must continue in all light levels, weather, and battlefield obscurant conditions. Night Vision Goggles were shown to limit the driver's ability to perform support missions during Operation Desert Storm.



EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
OI AWARD								!																				
PDR								!																				
CDR								!																				
HARDWARE DELIVERY												!																
SIPR															!													
OII AWARD																!												
IPR III																						!						

REQUIREMENTS DOCUMENT: ORD APPROVED 18 JUL 93.

TYPE CLASSIFICATION: EST 4QFY98 (AT MS III).

DVE IS A PASSIVE THERMAL IMAGING SYSTEM DESIGNED TO PROVIDE DRIVERS OF TACTICAL WHEELED VEHICLES WITH THE CAPABILITY TO CONTINUE NORMAL DRIVING OPERATIONS IN ALL AMBIENT LIGHT LEVELS AND IN THE PRESENCE OF NATURAL AND MAN-MADE OBSCURANTS.

PM, NVED

MINI EYESAFE LASER INFRARED OBSERVATION SET (MELIOS)

PROJECT OFFICER: Mr. Neal Graber, DSN 656-3277  
COMM 703/806-3277

PE & LINE #: 464710.DL70 SSN: B53800

DESCRIPTION: The MELIOS will provide the individual soldier with accurate range and vertical angle determination to provide target acquisition data for direct and indirect weapons systems in eyesafe mode. MELIOS will replace the AN/GVS-5 Laser Infrared Observation Set. AN/GVS-5 is not eyesafe. MELIOS is designed for ranges out to ten kilometers with plus or minus five meter accuracy. It operates in the eyesafe wavelength region allowing maximum use by units in training and tactical exercises. It will increase first round hit probabilities during battlefield engagements, expedite target acquisition and provide accurate ranges for Ground-to-Air Defense. It will enhance the effective conduct of reconnaissance, surveillance and terrain navigation. It will be carried in a small, water resistant padded pouch that is attachable to the soldier's web gear. Fielding is one per infantry squad, other distribution to combat, SOF and combat support units to be determined.



HISTORICAL BACKGROUND:

Sep 83 - Two Cost Plus Fixed Fee contracts awarded.  
Jul 85 - DT-I successfully completed.  
Dec 85 - OT-I successfully completed.  
Sep 88 - Development Production Prove-Out contract award.  
Jul 91 - OT-II successfully completed; Efforts to insert compass/vertical angle measurement restarted.  
Dec 92 - Milestone III approval.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
PRODUCTION AWARD																												
FAT																												
FUE																												

REQUIREMENTS DOCUMENT: ROC, Feb 87.

TYPE CLASSIFICATION: Standard approved 2QFY92.

MELIOS IS DESIGNED TO MEET ALL RANGING REQUIREMENTS OF THE INFANTRY AND SELECTED REQUIREMENTS OF OTHER BRANCHES AND SERVICES OUT TO RANGES OF 10KM WITH PLUS OR MINUS 5M ACCURACY.

PM SW

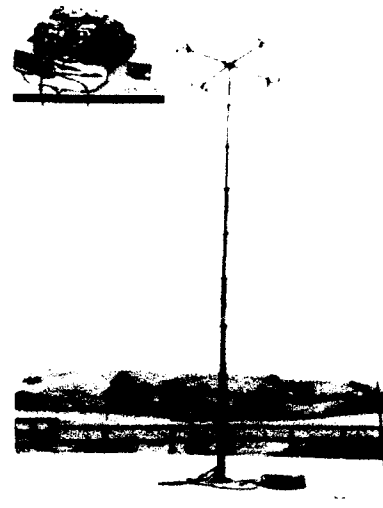
PM, SW

AN/PRD-12, LIGHTWEIGHT MANTRANSPORTABLE RADIO DIRECTION  
FINDER SYSTEM (LMRDFS)

MANAGER: Mr. John Holzman, DSN 229-6816  
COMM 703/349-6816

PE & LINE #: 3.58.85 (TCP); SSN: K06800

DESCRIPTION: The LMRDFS is a mantransportable ground based communications intercept, processing, and direction finding system. It consists of a receiver/processor and antenna subsystems that can be deployed by two personnel. There are six AN/PRD-12 systems per Light Division and twelve systems per USASOC Special Forces. A total of 110 systems are being procured for FORSCOM/USASOC and TRADOC. Ninety-nine additional systems are being procured for the TEAMMATE HF frequency extension materiel change. The system searches for, intercepts, and provides for direction finding locations of enemy HF/VHF/UHF communications emitters. The AN/PRD-12 will interoperate with the TEAMMATE system via communications links in the direction finding mode.



HISTORICAL BACKGROUND:

Dec 87 - Contract awarded.  
Jun 89 - System Confidence Demonstration.  
Aug 90 - Completed testing at Fort Huachuca.  
Nov 90 - Contract Modifications awarded to demonstrate frequency extension.  
Apr 93 - Initiate Fieldings.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
FIELDING																												
LOW PROFILE ANTENNAS																												
FIELD LPA																												

REQUIREMENTS DOCUMENT: QRC-59 approved by AEWIC, Jun 86 .

TYPE CLASSIFICATION: LPU based on QRC-59.

LMRDFS IS A MANTRANSPORTABLE GROUND BASED COMMUNICATIONS INTERCEPT, PROCESSING, AND DIRECTION FINDING SYSTEM.

PM, SW

AN/TRQ-32, TEAMMATE

PRODUCT MANAGER: LTC David Meriwether, DSN 229-7071  
COMM 703/349-7071

PE & LINE #: 3.58.85 (TCP); SSN: BZ9752 (TM)

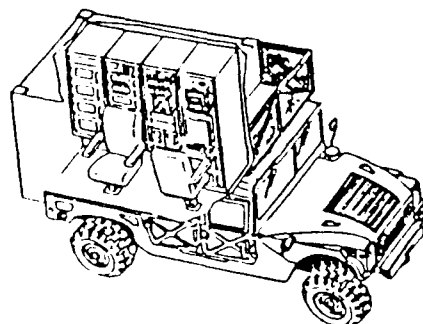
DESCRIPTION: TEAMMATE is a tactical ground based communications intercept, processing and direction finding system. TEAMMATE is mounted in a shelter carried on a Commercial Utility/Cargo Vehicle (CUCV). There are three TEAMMATE systems per Division, two systems per separate Brigade/Armored Cavalry Regiment (ACR) and six per Corps. The system is used to search for, intercept, record, locate and report on radio signals in the HF/VHF/UHF frequency ranges. The system operates in a netted configuration for direction finding purposes. AN/TRQ-32(V)2 includes Data Link and KG-84 COMSEC to interoperate with processing centers. Ongoing materiel changes include addition of HF direction finding; an enhanced self location capability; a Host Interface Unit for connectivity with Tactical Commanders Analysis Center (TCAC) and ASAS; replacement of AN/VRC-47 with SINCARS radio; and, a feature to permit internetting with QUICKFIX for direction finding.



PHOTO: CUCV-MOUNTED TEAMMATE  
DRAWING: NEXT GENERATION SYSTEM IN HMMWV  
WITH NEW MISSION EQUIPMENT

HISTORICAL BACKGROUND:

Jan 89 - DTSR Production and Integration contract award.  
Apr 90 - AN/PRD-12 Integration contract award.  
Sep 90 - Host Interface Unit contract award.  
Mar 91 - TEAMMATE/QUICKFIX Interoperability contract award.



EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
TEAMMATE MATERIEL CHANGES:																												
PRODUCTION																												
FIELDING																												
TACTICAL TRAINER																												
FIELDING																												

REQUIREMENTS DOCUMENT: TEAMMATE ROC, Jun 74.

TYPE CLASSIFICATION: TEAMMATE, Standard-A (V1) approved Jul 85.

TEAMMATE IS A TACTICAL GROUND BASED COMMUNICATIONS INTERCEPT, PROCESSING, AND DIRECTION FINDING SYSTEM.

PM, SW

AN/TSQ-152, TRACKWOLF

PRODUCT MANAGER: LTC David Meriwether, DSN 229-7071  
COMM 703/349-7071

PE & LINE #: SSN: V18200

**DESCRIPTION:** TRACKWOLF is a mobile, ground based High Frequency (HF) skywave communications intercept and direction finding system. It consists of a Direction Finding Subsystem (DFS) and a Collection and Processing Subsystem (CPS). TRACKWOLF is an Echelons Above Corps asset assigned to MI Battalions. The first of five required systems is currently being procured on a Quick Reaction Capability (QRC) basis. The second system, which is scheduled for procurement in FY94, will be reduced in number of shelters and downsized to fit on heavy High Mobility, Multipurpose Wheeled Vehicles (HMMWVs) to satisfy rapid deployment mission requirements. The system capabilities include automated direction finding using single station location technology coupled with collection, processing, analysis and reporting functions. TRACKWOLF replaces the obsolete Operational Unit Transportable Systems (OUTS) which utilizes tube technology and does not possess the necessary mobility to be deployed on today's battlefield. TRACKWOLF DFS consists of AN/TRD-27 Direction Finding/Single Station Location Shelters and AN/TRQ-41 HF Sounder/Communications Shelters carried on standard 5-ton trucks. CPS consists of AN/TRR-36 Communications/Signal Search Shelters, AN/TSY-1 Collection/Processing Shelters, and AN/TSX-1 Analysis Shelters also on standard Army 5-ton trucks. The system will interoperate with EAC Intelligence/Electronic Warfare Analysis systems including TOPGALLANT/SSP-S/ASAS. A large portion of the mission equipment being procured is Non-Developmental Item modules originally developed by NSA for strategic sites.



**HISTORICAL BACKGROUND:**

Sep 88 - Contract awarded.  
May 89 - Critical Design Review conducted.  
4QFY91 - Phase 1 IOT&E.  
2QFY92 - Phase 2 IOT&E.

**EVENT SCHEDULE:**

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
FIRST UNIT EQUIPPED	!																											
PRODUCTION AWARD (ENHANCED TRACKWOLF)									!																			
FIELDING (ENHANCED TRACKWOLF)													!															
UPGRADE TRACKWOLF TO ENHANCED TRACKWOLF									!																			

REQUIREMENTS DOCUMENT: QRC-60, Nov 86.

TYPE CLASSIFICATION: Limited Procurement-Urgent approved Nov 86.

TRACKWOLF IS A MOBILE GROUND BASED HF SKYWAVE COMMUNICATIONS INTERCEPT AND DFS EMPLOYED AT ECHELON'S ABOVE CORPS.

PM, SW

ADVANCED QUICKFIX (AQF)

PROJECT MANAGER: Mr. James Hunt, DSN 229-6768  
COMM 703/349-6768

PE & LINE #: 0604270/DL12

DESCRIPTION: Advanced QUICKFIX provides Division and ACR commanders with an organic capability to listen to, locate for hard-kill targeting or order-of-battle resolution, or render ineffective through jamming opposition command and control and fire control nets and counter/mortar, counter/battery ground surveillance radar emissions. Configured in a BLACKHAWK Helicopter, it provides the line of sight extension necessary to provide for location accuracies sufficient for "Steel on Target" requirements, as well as for extension of C2 Jamming LOS.



HISTORICAL BACKGROUND:

Sep 91 - AQF integration contract awarded.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
ENGINEERING & MANUFACTURING DEV: CDR				!																								
PRODUCTION: ACQUISITION STRATEGY REVEIW					!																							
POP DEVELOPMENT						!																						
SOLICITATION								!																				
MS III PRODUCTION									!																			
PRODUCTION AWARD										!																		
FIELDING																	!											

REQUIREMENTS DOCUMENT: AQF ORD, Oct 92.

TYPE CLASSIFICATION: Standard, Jul 95.

AQF IS A HELIBORNE ELECTRONIC ATTACK, SIGNALS INTELLIGENCE, AND EMITTER TARGETTING SYSTEM.



PM, SW

AIRBORNE RECONNAISSANCE LOW (ARL)

PRODUCT MANAGER: LTC Stan Niemiec, DSN 229-5189  
COMM 703/349-5189

PE & LINE #:

DESCRIPTION: The ARL is an airborne day/night reconnaissance asset designed for Low Intensity Conflict/Counter Narcotics applications. ARL collects, processes, and disseminates intelligence in real-time. The system is designed for forward deployment. A total of three systems (three aircraft each) will be procured.



HISTORICAL BACKGROUND:

May 90 - Requirement identified by USASOUTHCOM Statement of Need.  
Jan 91 - Sole Source Request for Proposal released.  
Mar 91 - Contract award.  
May 93 - Field ARL-Communications Intelligence (ARL-C) Systems.  
Jul 93 - Field ARL-Imagery Intelligence (ARL-I) Systems.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99				
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
SYSTEM DELIVERY (COMINT) - 2 AIRCRAFT					1																								
SYSTEM DELIVERY (IMINT) - 1 AIRCRAFT						1																							
OPTION FOR 3 MULTI-FUNCTION AIRCRAFT EXERCISED						1																							
SYSTEMS DELIVERY													1	1				1											
RETROFIT FIRST THREE AIRCRAFT															1														

REQUIREMENTS DOCUMENT: USASOUTHCOM SON approved Jun 90.

TYPE CLASSIFICATION: LPU approved May 90.

ARL IS A TACTICAL FIXED WING COMMUNICATIONS INTERCEPT AND DIRECTION FINDING AND IMAGERY INTELLIGENCE SYSTEM.

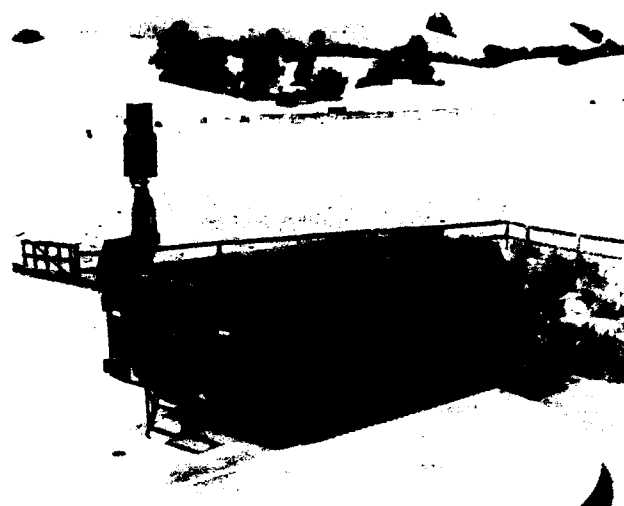
PM, SW

GROUND BASED COMMON SENSOR HEAVY (GBCS-H)

PROJECT MANAGER: LTC Stephen Reeves, DSN 229-6771  
COMM 703/349-6771

PE & LINE #: 0604270/DL12 and 0305885

DESCRIPTION: GBCS-H provides commanders of Armored and Mechanized Infantry Divisions with an organic capability to listen to, locate for hard-kill targeting or order-of-battle resolution, or render ineffective through jamming opposition command and control and fire control nets and counter/mortar, counter/battery ground surveillance radar emissions. The system is specifically designed to ensure transportability, prime mover maintainability, and over terrain mobility equal to or greater than supported units, while at the same time exploiting or eliminating - at the supported Commander's discretion - the latest, most modern types of hostile modulations and transmission techniques at the key time and place on the battlefield. GBCS-H is the Army's only on-the-move, on-the-ground, all weather, all terrain, self-contained, fully integrated, 24-hour-a-day signals intelligence and electronic warfare asset.



HISTORICAL BACKGROUND:

Sep 91 - GBCS-H integration contract awarded.  
Nov 92 - Conducted critical design review.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ENGINEERING & MANUFACTURING DEV:																												
CDR					!																							
PRODUCTION:																												
ACQUISITION STRATEGY REVIEW						!																						
PDP DEVELOPMENT							!																					
SOLICITATION									!																			
MS III PRODUCTION										!																		
PRODUCTION AWARD												!																
FIELDING														!											!			

REQUIREMENTS DOCUMENT: IEW GBCS ROC, Oct 90.

TYPE CLASSIFICATION: Standard Jul 95.

GBCS-H IS A HIGHLY SURVIVABLE, HIGH CAPACITY, ELECTRONIC ATTACK, SIGNALS INTELLIGENCE AND EMITTER TARGETING SYSTEM.

PM, SW

GROUND BASED COMMON SENSOR LIGHT (GBCS-L)

PRODUCT MANAGER: LTC David Meriwether, DSN 229-7071  
COMM 703/349-7071

PE & LINE #: 0604270/DL12 and 0305885

DESCRIPTION: GBCS-L provides Commanders of Light, Airborne, and Air Assault Divisions with an organic capability to listen to, locate for hard-kill targeting or order-of-battle resolution, or render ineffective through jamming opposition command and control and fire control nets and counter/mortar, counter/battery ground surveillance radar emissions. The system is specifically designed to ensure transportability, prime mover maintainability, and over terrain mobility equal to or greater than supported units, while at the same time exploiting or eliminating - at the supported Commander's discretion - The latest, most modern types of hostile modulations and transmission techniques at the key time and place on the battlefield.



HISTORICAL BACKGROUND:

Sep 91 - GBCS-L integration contract awarded.  
Nov 92 - Conducted Critical Design Review.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ONS SIPR					!																							
ENGINEERING & MANUFACTURING DEV:																												
CDR	!								!																			
FUE																												
MC IPR																									!			
PRODUCTION:																												
LRIP 8 GBSC-L													!				!											
MS III PRODUCTION																												
PRODUCTION AWARD																												
FIELDING																					!							

REQUIREMENTS DOCUMENT: IEW GBSC ROC, Oct 90.

TYPE CLASSIFICATION: GBSC-L operational needs Statement System LPU approved Oct 90. GBSC-L Standard, Jul 95.

GBSC-L IS A RAPID DEPLOYABLE ELECTRONIC ATTACK, SIGNALS INTELLIGENCE, AND EMITTER TARGETTING SYSTEM.

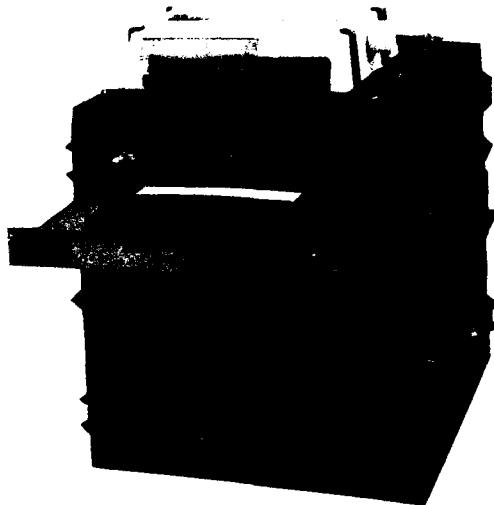
PM, SW

TIGER

PROJECT OFFICER: Mr. John Holzman, DSN 229-6816  
COMM 703/349-6816

PE & LINE #: SSN: BZ9753

DESCRIPTION: The TIGER system is a Net Radio Protocol (NRP) relay. It consists of a GRID 1535 computer, a MAGNAVOX NRP card, an ARC-164 Radio and KG-84 Crypto. The system is contained in a transit case and can be powered from standard tactical vehicles. There are three TIGERs per division and four per separate brigade. The IEW sensors (e.g., TEAMMATE, and TRAILBLAZER) communicate with Tactical Command and Control (TCAC) over an NRP Datalink. This link allows timely dissemination of critical battlefield intelligence data. The NRP data link is UHF and requires radio Line-of-Site to operate. This requires the sensor and the fusion system to be deployed relatively close together. The TIGER NRP relay allows the fusion system to be deployed at a more reasonable stand off distance and still communicate with the sensors. The TIGER system is also configured to allow for control and termination of the NRP Datalink if the TCAC is not deployed or is being relocated.



HISTORICAL BACKGROUND:

Nov 88 - 108th MI Battalion tested a TIGER prototype.  
Dec 89 - 110th MI Battalion utilized TIGER prototype in REFORGER.  
Nov 90 - DA directs immediate procurement to support Operation Desert Shield; MAGNAVOX directed to produce TIGER.  
Jan 91 - Initial deployment (Operation Desert Shield).

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
FIELDING TRANSITION	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

REQUIREMENTS DOCUMENT: ONS and HQDA message, Nov 90.

TYPE CLASSIFICATION:

TIGER IS A NET RADIO PROTOCOL RELAY SYSTEM TO PROVIDE TIMELY DISSEMINATION OF CRITICAL BATTLEFIELD INTELLIGENCE DATA.

PM FAAD/GBS

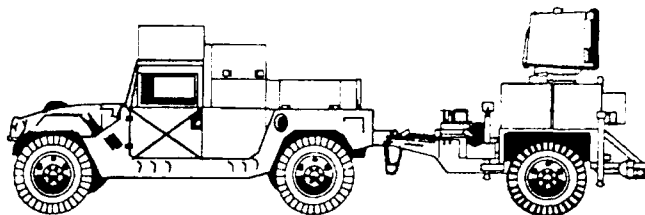
PRODUCT MANAGER, FAAD/GBS

GROUND BASED SENSOR (GBS)

PRODUCT MANAGER: LTC James A. Welis, DSN 788-1673  
COMM 205/722-1673

PE & LINE #: 64820.DE10 SSN: WK5053

DESCRIPTION: The GBS is an NDI system capable of providing search and track functions against fixed and rotary wing aircraft, UAV and Cruise Missiles. The GBS is a part of the Forward Area Air Defense (FAAD) System. There will be six GBSS located in the Air Defense Battalion of all divisions. Each GBS will be netted with the Command, Control and Intelligence network to report those targets it is tracking. In Continuity of Operations (CONOPS), GBS will communicate directly to the Fire Control system of support FAAD weapons. Each GBS will incorporate the capability to provide the Identification Friend or Foe (IFF) function to identify friendly aircraft.



HISTORICAL BACKGROUND:

1986 - JRMB approved Milestone Decision Review II/IIIA.  
Jun 89 - First solicitation withdrawn.  
Jun 90 - NDI Best Value Request for Proposal.  
Sep 90 - Seven proposals received.  
Feb 92 - NDI contract award.  
May 93 - First pre-production delivery.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
PRE-PRODUCTION (6)					I																							
PRE-PRODUCTION TESTING					I				I																			
LRIP PRODUCTION									I				I															
PRODUCTION													I				I											
FUE									PRE-PROD				I				PROD				I							
PRODUCTION QUALIFICATION TEST													I				I											

REQUIREMENTS DOCUMENT: FAAD GBS ROC, Jan 88, revision 1, Nov 89; revision 2, Nov 90.

TYPE CLASSIFICATION:

GBS IS AN NDI SYSTEM CAPABLE OF PROVIDING SEARCH AND TRACK FUNCTIONS AGAINST FIXED AND ROTARY WING AIRCRAFT.

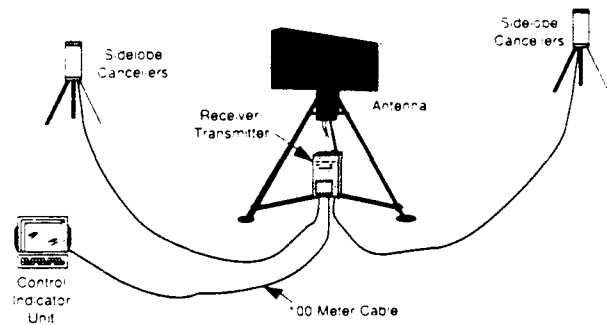
PRODUCT MANAGER, FAAD/G8S

LIGHT AND SPECIAL DIVISION INTERIM SENSOR (LSDIS)

PRODUCT MANAGER: LTC James A. Wells , DSN 788-1673  
COMM 205/722-1673

PE & LINE #: SSN: AD4500

DESCRIPTION: The LSDIS is a lightweight, Non-Developmental, short range air defense sensor. LSDIS will provide 360 degree acquisition, early warning, and alerting of fixed and rotary wing aircraft. LSDIS replaces the Forward Area Alert Radar (FAAR) and will be fielded in Light/Special Divisions and other selected Air Defense Artillery (ADA) Battalions. LSDIS consists of an antenna, pedestal assembly, receiver/transmitter and control unit.



HISTORICAL BACKGROUND:

- Jul 90 - Directed Procurement.
- May 91 - Directed Procurement contract award.
- Nov 91 - FAT PEO IPR.
- Jun 92 - FAAD C2 Test Support.
- Jul 92 - Hand Receipt to school.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
PRODUCTION									!																			
PRODUCTION QUALIFICAITON TEST					!_!																							
FAAD C2I INTEGRATION TEST					!_ _!																							
DELIVERIES					!				!																			
FUE					!																							

REQUIREMENTS DOCUMENT: ONS, 6 Jul 89; ORD validated 26 Jul 90.

TYPE CLASSIFICATION: Limited Procurement-Urgent, Jul 90.

LSDIS IS A LIGHTWEIGHT, NON-DEVELOPMENTAL, SHORT RANGE AIR DEFENSE SENSOR.

PM FIREFINDER



PM, FIREFINDER

FIREFINDER SYSTEMS/PROGRAMS

PRODUCT MANAGER: LTC Anthony DiRienzo, DSN 996-5018  
COMM 908/544-5018

PE & LINE #: BZ7325 - FIREFINDER HMMWV, ELECTRONICS UPGRADE and ENHANCED FIREFINDER  
644270/DL18 - SHORTSTOP

DESCRIPTION: FIREFINDER is comprised of the AN/TPQ-36 and AN/TPQ-37 Mortar and Artillery Locating Radars. These radars are organic to separate infantry and armor brigades, to the Target Acquisition Battery (TAB) at Division Artillery (Div Arty), and/or Corps Target Acquisition Detachments. FIREFINDER radars are currently operational and were used in support of Operation Desert Shield/Storm.

HISTORICAL BACKGROUND: Fielding and deployment of the AN/TPQ-36 and AN/TPQ-37 Radars is complete. Operational use and sustainment of fielded FIREFINDER continues.

PRODUCT IMPROVEMENTS TO FIREFINDER SYSTEMS: Seven Materiel Changes/Product Improvements are in process. They are: TACFIRE Upgrade, Mechanical Retrofit/Upgrade, Backplane Wiring, AN/TPQ-36(V)7 HMMWV configuration, AN/TPQ-36(V)8 Electronics Upgrade, Enhanced FIREFINDER system, and AN/TPQ-37 ATG Mobility Improvement. A brief description and status of each MC follows:

TACFIRE UPGRADE MC: The TACFIRE Upgrade MC provides for the procurement of 202 updated Circuit Card Assemblies (CCAs) to provide compatibility between FIREFINDER radars (AN/TPQ-36s and AN/TPQ-37s) and the TACFIRE version 10 Software; thereby, enhancing communications between FIREFINDER and other segments of the fire support/control community. Total cost of this MC was \$1.4M. CCAs are currently being distributed to the field concurrent with release of Version 10 Software.

Mechanical RETROFIT/UPGRADE MC: This MC provides for design and production of modification kits to resolve problems with water entering the Antenna Transceiver Group. Water entry creates safety problems for the crew and causes equipment degradation because of leakage. The design of the modification kit is complete and has been tested. SAAD was awarded the production contract in FY92. Production was transitioned to TOAD, Feb 93. Application is scheduled for 1QFY94. Total cost of this MC was \$8.2M.

BACKPLANE WIRING MC: This MC changes the backplane wiring which modifies the control logic of the signal processor and corrects fault indication problems exhibited in the AN/TPQ-36 and AN/TPQ-37 radars. Depot application of wiring changes began in 3QFY91 and is scheduled for completion by 1QFY94. Total cost of this MC was \$164K.

Two Product Improvements were originally grouped under the Block II program. Block II, the Single Vehicle (5-ton) AN/TPQ-36, has been cancelled. The second Product Improvement has been restructured into two MC programs. The first MC, the AN/TPQ-36 HMMWV Configuration Program, downsizes 59 AN/TPQ-36(V)5 radars from their current configuration on 2 1/2-ton trucks to a High Mobility, Multipurpose Wheeled Vehicle (HMMWV) AN/TPQ-36(V)7 configuration. Modification Kits are currently being fabricated at TOAD. Application of the kits began in 2QFY93. The second MC upgrades the existing Operations Control Group for the AN/TPQ-36 upgrades the existing Operations Control Group for the AN/TPQ-36 through the installation of state-of-the-art electronics and Common Hardware/Software (CHS) in a Lightweight Multi-Purpose Shelter (LMS). The basic contract was awarded in Dec 92.

Fielded FIREFINDER systems, the AN/TPQ-36(V)7 HMMWV Configuration, AN/TPQ-36(V)8 Electronics Upgrade, Enhanced FIREFINDER System, AN/TPQ-37(V) ATG Mobility Improvement and the AN/VLQ-9 Shortstop programs are discussed on the following pages.

PM, FIREFINDER

AN/TPQ-36, FIREFINDER MORTAR LOCATING RADAR

PRODUCT MANAGER: LTC Anthony DiRienzo, DSN 996-5018  
COMM 908/544-5018

PE & LINE #: SSN: BZ7325

DESCRIPTION: AN/TPQ-36 locates both enemy mortar and artillery weapons systems. It is composed of: Operations Control Group (OCG) mounted on an M-35 2-1/2 ton Truck; Antenna Transceiver Group mounted on an M-103 series Trailer; and, the AN/MJQ-25 power unit (two MEP-112s, 10 kilowatt, 400 hertz, diesel generators) mounted on an M-103 1-1/2 ton Trailer. Three AN/TPQ-36 radars are assigned to a division Target Acquisition Battery and are normally complemented by two AN/TPQ-37 Artillery Locating Radars. AN/TPQ-36 is a highly mobile phased-array radar which automatically and accurately locates mortars, artillery and short range rocket launchers. Materiel changes to increase mobility, decrease emplacement/displacement time, and incorporate electronics upgrades are in progress.



HISTORICAL BACKGROUND:

- Nov 71 - Materiel need statement for Mortar Locating Radar by HQ DA.
- Oct 73 - Contract to HAC for five Engineering Development Models (EDMs)
- Dec 77 - Full Scale Production (FSP) approved; Materiel Needs Statement revalidated by HQ DA.
- Dec 80 - First Delivery; Conditional acceptance.
- Jul 86 - Production Complete (for U.S. Forces).
- 4QFY90 - AN/TPQ-36 used to support Operation Desert Shield/Storm.

REQUIREMENTS DOCUMENT: Materiel Needs Statement with changes, 25 Oct 77.

TYPE CLASSIFICATION: Standard approved Oct 79.

FIREFINDER BLOCK II PHASE II SHELTERLESS-CONFIGURED AN/TPQ-36 IS A MORTAR AND ARTILLERY LOCATING RADAR.

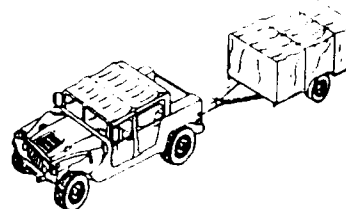
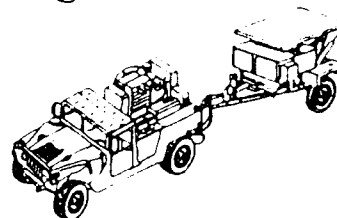
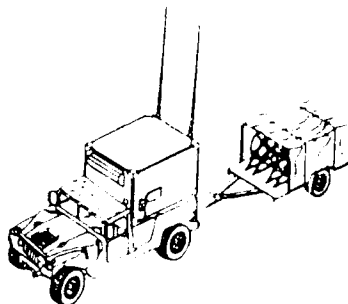
PM, FIREFINDER

AN/TPQ-36, FIREFINDER RADAR HIGH MOBILITY, MULTIPURPOSE  
WHEELED VEHICLE CONFIGURATION

PRODUCT MANAGER: LTC Anthony DiRienzo, DSN 996-5018  
COMM 908/544-5018

PE & LINE #: SSN: BZ7325

DESCRIPTION: The AN/TPQ-36(V)7 High Mobility, Multi-purpose Wheeled Vehicle (HMMWV) Materiel Change Upgrade downsizes the AN/TPQ-36(V)5 configuration for use in the active Army. The Operations Control Group (OCG) is mounted on a M1097 HMMWV and tows the M116A2 Cargo Trailer. A MEP112A Generator set is mounted on a M1097 HMMWV which tows the Antenna-Transceiver Group (ATG). A M998 reconnaissance vehicle tows a second, spare MEP112 Generator on a M116A2 trailer. A Modular Azimuth Positioning System (MAPS) is added to augment the capability for site survey. Crew size is reduced from eight to six personnel. This new configuration is transportable by road, rail and air including the ability to be transported in two sorties by C-130 and larger aircraft with drive on/off capability.



HISTORICAL BACKGROUND:

Apr 90 - DA MSG authority to proceed with Block IIB, HMMWV Configuration.  
Sep 90 - SAAD tasked to fabricate five AN/TPQ-36 HMMWV Configuration pre-production models.  
Oct 91 - First Fieldings to 7TH ID and USAFAS.  
Mar & Apr 92 - Sacramento Army Depot (SAAD) tasked to fabricate and apply 43 kits.  
Dec 92 - Kit Production transitioned to Tobyhanna Army Depot (TOAD).  
Jun - Jul 93 - First Article Test (FAT) at Tobyhanna Army Depot.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
KIT PRODUCTION W/O MAPS																												
FIRST ARTICLE TEST W/O MAPS																												
MAPS KIT PRODUCTION																												
FIRST ARTICLE TEST W/MAPS																												
FIELDING W/O MAPS																												
FIELDING W/MAPS																												

REQUIREMENTS DOCUMENT: Materiel Change 1-88-07-0004. Letter, USAFAS, TSF-TSM-TA, 5 Jul 90, subject "Restructure of the FIREFINDER Block II Program."

TYPE CLASSIFICATION: Standard approved Mar 92.

FIREFINDER RADAR HMMWV CONFIGURATION, AN/TPQ-35, IS A MORTAR AND ARTILLERY LOCATING RADAR.

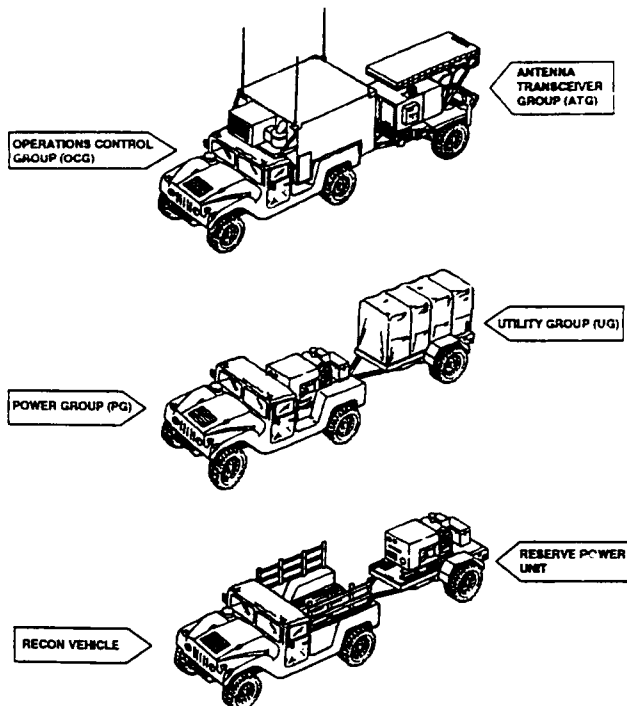
PM, FIREFINDER

AN/TPQ-36, FIREFINDER MORTAR LOCATING RADAR, ELECTRONICS  
UPGRADE

PRODUCT MANAGER: LTC Anthony DiRienzo, DSN 996-5018  
COMM 908/544-5018

PE & LINE #: SSN: BZ7325 MODIFICATION OF IN-SERVICE  
EQUIPMENT (TACSURV)

**DESCRIPTION:** The AN/TPQ-36(V)8 Electronics Upgrade will improve the Operations Control Group (OCG) through the installation of state-of-the-art electronics and Common Hardware/ Software (CHS) in the Lightweight Multipurpose Shelter (LMS). The new OCG will be mounted on an M1097 "Heavy" HMMWV which will tow the Antenna-Transceiver Group (ATG) on a modified M116A2E1 trailer. A second M1097 HMMWV will carry a palletized MEP-112A generator and will tow an M116A2E1 cargo trailer. A HMMWV reconnaissance vehicle (M998 or M1038) will tow a second ("back up") MEP-112A generator mounted on an M116A2E1 trailer. Major subsystems of the new OCG include an Operator Control Station (OCS), a Control/Display Terminal (CDT), radar processor, and shelter. The OCS will serve as the man-machine interface. The CDT will allow the operator to command and control system operation from a remote site up to 100 meters from the shelter. The radar processor will perform all system processing functions not assigned to the OCS and will be programmable and reconfigurable to maximize system performance under varying target and operating environmental conditions. The LMS will enhance the man-machine interface and electronics environment by providing 50 percent more interior space.



HISTORICAL BACKGROUND:

Oct 89 - Block IIB configuration requirements defined by TRADOC.  
Jul 90 - DA authorized phasing of Block IIB.  
Jan 91 - Configuration Control Board concurred with AN/TPQ-36(V)8 Materiel Change package.  
Apr 92 - AAE approved program initiation.  
Dec 92 - Contract award.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
CONTRACT AWARD					!																							
(BASIC) BUILD ONE LRIP					!						!																	
OPTION 1 BUILD 7 LRIP																												
SUBSYSTEM RELIABILITY DEMO																												
USER TEST																												
MILESTONE III																												
PRODUCTION																												
FIELDING																												

REQUIREMENTS DOCUMENT: Materiel Change 1-90-07-0016; Letter Requirement (TRADOC) USAFAS, ATSF-TSM-TA dated 13 Apr 92.

TYPE CLASSIFICATION: Standard, 1QFY96

AN/TPQ-36(V)8 FIREFINDER UPGRADE IS A MORTAR AND ARTILLERY LOCATING RADAR.

PM, FIREFINDER

AN/TPQ-37, FIREFINDER ARTILLERY LOCATING RADAR

PRODUCT MANAGER: LTC Anthony DiRienzo, DSN 996-5018  
COMM 908/544-5018

PE & LINE #: SSN: BZ7325

DESCRIPTION: The AN/TPQ-37 is a mobile Phased Array Artillery Locating Radar System. The operations shelter is identical to that used with the AN/TPQ-36(V)5 and consists of an Operations Control Group mounted on an M-35 series Truck, and the MEP-115A, 60 kilowatt, 400 hertz Generator Set mounted on a 5-ton Truck. This truck also tows the Antenna Transceiver Group consisting of the Phased Array Antenna, Transmitter, Receiver and associated electronics mounted on the MX-1048 Trailer, a 6-ton four wheel flatbed Cargo Trailer. Two AN/TPQ-37s are assigned to the Target Acquisition Battery of each division and employed with the AN/TPQ-36. AN/TPQ-37 is larger than the AN/TPQ-36 and its target acquisition range is greater. The system uses a combination of radar techniques and computer controlled functions to detect and accurately locate enemy artillery and rocket weapons to permit rapid engagement with counter-fire.



HISTORICAL BACKGROUND:

Jun 72 - DA approved Materiel Need Statement; contract Research and Development award.  
Dec 76 - Low Rate contract award.  
May 81 - Full Scale Production contract award.  
Feb 83 - Initial Operational Capability (IOC) complete, Europe.  
Feb 86 - Production complete for Army.  
Apr 92 - Last U.S. fielding.

REQUIREMENTS DOCUMENT: Mission Need Statement, 1 Jun 78.

TYPE CLASSIFICATION: Standard approved 18 Feb 81.

AN/TPQ-37 IS A MOBILE PHASED ARRAY ARTILLERY LOCATING RADAR SYSTEM.

PM, FIREFINDER

AN/TPQ-37(V) ATG MOBILITY IMPROVEMENT PROGRAM

PRODUCT MANAGER: LTC Anthony DiRienzo, DSN 996-5018  
COMM 908/544-5018

PE & LINE #:

DESCRIPTION: This Mobility Improvement Program was initiated in response to mobility problems encountered in Operations Desert Shield/Storm. These problems included difficulty in moving the trailer through sand and improper tracking of the trailer behind the prime mover. This MC adapts a variant of M-200 trailer Tracked Suspension System (TSS) to the M1048 trailer which carries the ANTENNA-TRANSCIVER Group (ATG) of the AN/TPQ-37. In the pre-production phase two (2) TSS test kits were installed and tested on the M1048 trailer. (The primary components of the TSS modification kit are a walking beam suspension and reinforced rubber belts which wrap around the dual idler tires of the trailer.) Testing demonstrated that TSS application provided a wider foot print for the M-1048 trailer which improved trailer mobility in off-road use and did not degrade performance on paved surfaces at highway speeds. Accruable improvements using the TSS include: increased trafficability/mobility through soft dirt, mud and sand; better side-slope capability, less horse power required by the prime mover towing the trailer and better ride stability.



HISTORICAL BACKGROUND:

Mar 91 - After Action Report, Saudi, 16-28 Feb 93, CMDNT, USAFAS, Fort Sill, OK.  
Jan-Feb 92 MOA and SOW with PM TRAILERS.  
May 92 - Materiel Change approved.  
Oct 92 - Materiel Change (Revised to include production) Approved.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
PREPRODUCTION PHASE																												
OPERATIONAL DEMONSTRATION																												
MILESTONE III																												
GOVERNMENT TEST & EVALUATION																												

REQUIREMENTS DOCUMENT: MC #1-92-07-0001

TYPE CLASSIFICATION: N/A

AN/TPQ-37(V) ATG MOBILITY IMPROVEMENT PROGRAM IMPROVES TRAILER MOBILITY IN OFF-ROAD USE AND DOES NOT DEGRADE PERFORMANCE ON PAVED SURFACES AT HIGHWAY SPEEDS.

PM, FIREFINDER

AN/TPQ-37(V) ENHANCED FIREFINDER BLOCK I

PRODUCT MANAGER: LTC Anthony Di Rienzo, DSN 996-5018  
COMM 908/544-5018

PE & LINE #: BZ7325

DESCRIPTION: This Block I Materiel Change is a short term program with minimal technical risk. It incorporates mechanical upgrades to improve Reliability, Availability and Maintainability (RAM), it improves transportability, mobility, survivability and commonality with the AN/TPQ-36. Software improvements include reduced false locations and incorporation of a long range mode. Special features include a new, improved cooler, C-130 transportability kit, MAPS-Self survey, separate tape for Long Range Software and a survivability suite. The system will be strategically deployable and operable at all levels of conflict.



HISTORICAL BACKGROUND:

Oct 92 - Initial requirements defined.  
Feb 93 - Block I Materiel change approved.  
Mar 93 - Preproduction contract award.  
Jul 93 - Critical design review.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
MC APPROVAL (PRE-PRO)					!																							
AWARD DELIVERY ORDER					!																							
BASIC KIT					!				!																			
SURVIVABILITY SUITE					!				!																			
BLOCK I CONTRACT AWARD					!				!																			
BLOCK I PRODUCTION					!				!																			
FIELDING					!				!																			

REQUIREMENTS DOCUMENT: Draft O&O Plan, Mar 91, Initial Block I EFF Conference, Oct 92; Materiel Requirements Letter 6 Aug 93.

TYPE CLASSIFICATION: TBD

NEW IMPROVED COOLING SYSTEM, LONG-RANGE SOFTWARE TAPE, MAPS SITE SURVEY, SURVIVABILITY/ SUITE, C-130 TRANSPORTABILITY KIT.

PM, FIREFINDER

AN/VLQ-9 "SHORTSTOP"

PROJECT MANAGER: LTC Anthony DiRienzo, DSN 996-5018  
COMM 908/544-5018

PE & LINE #: 644270 DL18

DESCRIPTION: The AN/VLQ-9 "SHORTSTOP" is a mobile, electronic countermeasure system designed to protect personnel and high value targets from the most predominant of indirect fire threats without operator intervention. The AN/VLQ-9 (LFU) is a vehicular version of SHORTSTOP and is mounted on either a HMMVV (M-998, M-1037, or M-1097) or a tracked M113A2 carrier. The AN/VLQ-9 was developed and built in response to Operation Desert Storm Quick Reaction Capability (QRC). Based on USAIS requirements "SHORTSTOP" will be militarized and reduced in size and weight for manpacked portability. Special features of the militarized, lite weight SHORTSTOP will include Autonomous Operation, Contiguous Coverage, BIT/BITE and an Omni-Directional Antenna. Ten of the current LPUs are in contingency storage. Fourteen other LPUs are being modified for a multiband, Omni-Directional Capability and will be placed in contingency storage 4QFY94.



HISTORICAL BACKGROUND:

Nov 90 - CINC CENTCOM QRC Statement of Need.  
Feb 91 - Limited Procurement Contract Award (LPU).  
Aug 91 - Limited Live Fire Test.  
Aug 92 - Full Live Fire Test.  
May 93 - Contract awarded from Risk Reduction Efforts, Multi-Band Upgrade and Omni-Directional coverage.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
LPU CONFIGURATION																												
USER TEST																												
ECP FOR MULTIBAND																												
MILLIMETER WAVE COUNTERMEASURE																												
RISK REDUCTION EFFORTS																												
END																												
AWARD ROTE CONTRACT																												
OPERATIONAL/TECHNICAL TEST																												
MS III																												
AWARD PRODUCTION CONTRACT																												

REQUIREMENTS DOCUMENT: Nov 90, CINC CENTCOM Mission Need Statement, Jun 93, Draft ORD, U.S. Army Infantry School Fort Benning, Georgia.

TYPE CLASSIFICATION: TBD.

THE AN/VLQ-9 "SHORTSTOP" IS A MOBILE, ELECTRONIC COUNTERMEASURE SYSTEM DESIGNED TO PROTECT PERSONNEL AND HIGH VALUE TARGETS FROM THE MOST PREDOMINANT OF INDIRECT FIRE THREATS WITHOUT OPERATOR INTERVENTION.



CECOM

RD&E CENTER

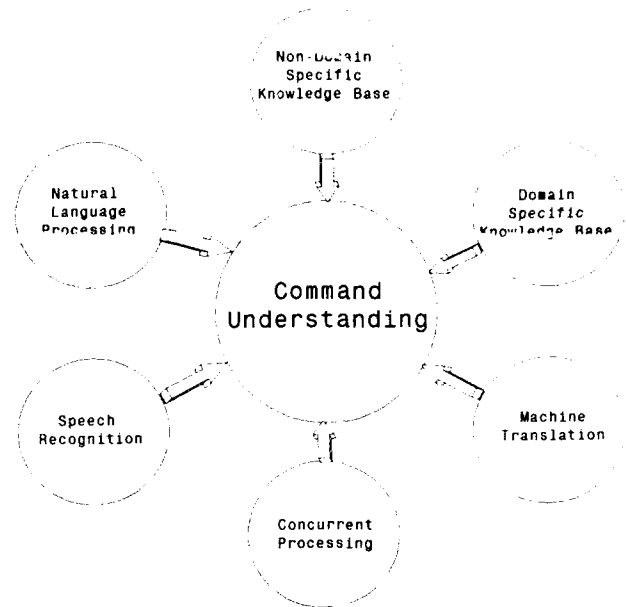
C2SID

ADVANCED INTERACTIVE INTERFACES

PROJECT MANAGER: Lockwood Reed, DSN 995-2559  
COMM 908/544-2559

PE & LINE #: 63006 D247 WP: 2470206A

DESCRIPTION: This effort is intended to develop a multi-modal command understanding capability to permit the access of battlefield information or control of subsystems via vocal or keyboard natural language requests. The system will include the capability of performing language translations to facilitate interoperability between forces. The system will exploit the technologies of neural science, domain knowledge processing, natural language processing and speech recognition. This effort will include technology evaluation, development and demonstration to support "Command-on-the-move". An objective is to provide keyless data entry capabilities for evaluation at NTC and at Battle Labs to demonstrate the capabilities to provide command and control on-the-move.

HISTORICAL BACKGROUNDEVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
CONCEPTUAL DEMO																												
PROGRAM CRITICAL PHENOMENA																												
PHASE I CONTRACT AWARD																												
KOREAN PARSER/GENERATOR																												
DEMO PHASE I																												
PHASE II AWARD																												
COMPLETE MT EXTENSION																												
PHASE II DEMO																												

REQUIREMENTS DOCUMENT:TYPE CLASSIFICATION:

DEVELOP MULTIMODAL COMMAND UNDERSTANDING TO FACILITATE ACCESS OF C2 BATTLEFIELD INFORMATION.

## C2SID

### FORCE LEVEL AIRLAND BATTLE MANAGEMENT ADVANCED TECHNOLOGY DEMONSTRATION (ALBM ATD)

PROJECT OFFICER: Dr. Rebbepragada, DSN 995-4029  
COMM 908/544-4029

CE & LINE #: 62772.0101

**DESCRIPTION:** This project encompasses the transition of automated decision aid and information management tools to enhance tactical commander and staff planning and operational Command and Control (C2) functions at Force Level (e.g., Corps, Division, Brigade). These items will exploit advanced computing technology in the area of artificial intelligence (AI)/expert systems, knowledge based techniques from Army/DOD, industry, and academia exploratory techbase developments. They will embody refined operational user requirements/specifications in automated decision aid applications, support environment prototypes, and system architectures. The tools developed will be demonstrated in operational tests, transitioned to and integrated with PEO CCS, Program Manager, Battlefield Operating Systems (BOS) on Army Tactical Command and Control System (ATCCS) Common Hardware and Software (CHS) including Common ATCCS Support Software (CASS) and applications. Iterative rapid prototyping techniques and interactive storyboarding with subject matter experts and operational users will be applied in the development of the products. Functional capabilities to be provided by this program will support C2 on the move and will include: decision aid advisors for enemy threat situation; battlefield area terrain; friendly situation capability; plan task generation; course of action evaluation; situation execution monitoring; filtering, information extraction, and alerting; and analog voice recognition and output. The capabilities provided will be accessible through a generic, intelligent, multimedia interactive, user friendly soldier machine interface. The benefits to be derived include: reduced planning-decision/reaction times; more effective plans; improved situational awareness; minimized troop workload; improved combat sustainment. The activities under this program are to be accomplished in coordination and cooperation with the user community through TRADOC Combined Arms Center (CAC) Battle Command Battle Lab, the developer PEO CCS/BOS Program Managers, and Joint Directors of Laboratories.

#### HISTORICAL BACKGROUND:

1987-1990 - Army/DARPA ALBM Program.  
Dec 1990 - ALBM ATD contract award.  
Dec 1991 - Limited Operational Capabilities demonstrated.  
Sep 1992 - Battlefield Area Terrain Component (BA) and Friendly Situation Component (FSC) were completed.  
Mar 1993 - Plan for continued development of METT-T \* Components approved by CECOM/CAC/PEO CCS.

\* METT-T: Mission, Enemy, Terrain, Troops, Time Available Components.

#### EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ALBM ATD BATTLEFIELD AREA (BA) TERRAIN ADVISOR																												
ALBM ATD FRIENDLY CAPABILITY (FSC)																												
ALBM ATD ENEMY CAPABILITY (ESC)																												
ALBM ATD METT-T * DEMO/EVAL AT BCBL, FT RILEY																												
ALBM ATD PHASE II COA WARGAMER																												

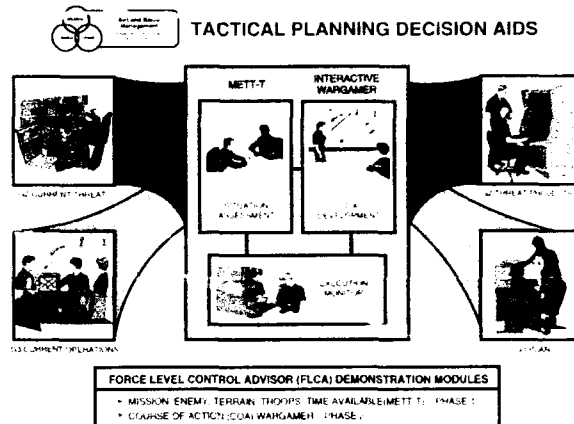
**REQUIREMENTS DOCUMENT:** ALBM ATD functional description/requirements specification, TRADOC CAC-CD, Battle Command Battle Laboratory, Ft. Leavenworth, KS, 8 Jan 91; Force level knowledge system concept, Lower Echelon knowledge system concept, Army Science and Technology Master Plan Nov 92.

#### TYPE CLASSIFICATION:

ALBM ATD PROVIDES AUTOMATED ARTIFICIAL INTELLIGENCE/EXPERT SYSTEM PLANNING AND DECISION SUPPORT FOR ACCS.



### AIRLAND BATTLE MANAGEMENT (ALBM) ADVANCED TECHNOLOGY DEMONSTRATION (ATD) PROGRAM



## C2SID

### COMBINED ARMS COMMAND AND CONTROL (CAC2)

PROJECT MANAGER: MAJ Ron Nelson, DSN 229-3869  
COMM 908/544-3869

#### PE & LINE #:

**DESCRIPTION:** The CAC2-ATD encompasses the operational concept to provide real time Combined Arms force synchronization and shared situation awareness to the weapon platform level by providing a common tailored battlefield picture through digitization and automation of C2 and communication assets to: reduce fratricide, facilitate target handover, increase horizontal integration and enhance overall combat effectiveness. In concert with the Battle Labs, the CAC2 will establish, refine, and evolve the operational requirements and develop a series of Distributed Interactive Simulations and Warfighting Demonstrations that will establish the concept, the architecture and evaluate proof of capabilities. This program is a top level ATD which will integrate the Systems Protocols and standardization requirements to digitize the battlefield.

#### HISTORICAL BACKGROUND:

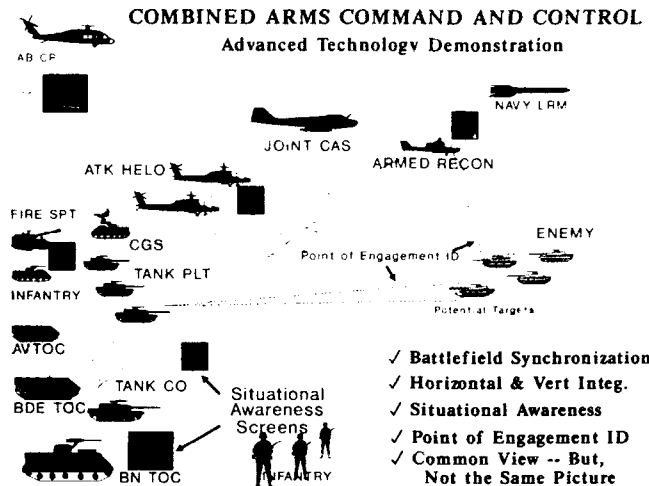
Dec 92 - Battlefield Synchronization Demonstration (BSD) man-in-the-loop simulation.  
Mar 93 - BSD Demonstration at Fort Knox, KY.  
Jul 93 - Front-End Analysis User Requirements Exercise, Fort Knox.  
Apr & Jul - General Officer Working Group Meeting - Digitizing the Battlefield.

#### EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1				1				1				1				1				1			
NTC ROTATIONS																												
WARFIGHTING DEMOS																												
DIS SIMULATIONS																												
ARCHITECTURE																												
DESIGN/TEST																												
ANALYSIS																												
MODELING																												
SIMULATION																												

REQUIREMENTS DOCUMENT: NONE

TYPE CLASSIFICATION: NONE



THE CAC2 IS A TOP LEVEL ATD WHICH WILL INTEGRATE THE SYSTEMS PROTOCOLS AND STANDARDIZATION REQUIREMENTS TO DIGITIZE THE BATTLEFIELD.

C2SID

SOLDIER'S COMPUTER

PROJECT MANAGER: Mr. William Yost, DSN 995-4968  
COMM 908/544-4968

PE & LINE #: 63772.D101

DESCRIPTION: The Soldier's Computer/Radio (SC/R) is a small, lightweight, portable, hands-free computer system with wireless link designed for the individual soldier. This system will extend automation to the soldier level. It will incorporate a small sized, standard architecture computer with modular application cards (e.g. graphics, digital radio, voice recognition, video and mass memory storage), permitting easy configuration based on user's needs; a radio incorporating Personal Communications technologies, which can transmit integrated speech, data and video; a helmet and secondary display (providing better resolution than a desktop monitor); manual, voice and video input devices and a Global Positioning System (GPS) Receiver, permitting the soldier to view a map depicting friendly, enemy and his own position on the battlefield. Soldier's Computer will also integrate night vision devices and other sensors, to include medical monitoring and Combat ID. The modular architecture of Soldier's Computer will allow mission configurable applications to include (but not limited to) situation awareness, message management, training field diagnostics and maintenance.

HISTORICAL BACKGROUND:

2QFY90 - In-house development of Prototype.  
4QFY90 - Concept Demonstration at AMC Technology Expo, Aberdeen, Maryland.  
FY91-92 - Computer development for Soldier's Integrated Protective Ensemble (SIPE) Advanced Technology Transition Demonstration (ATTD).  
FY93 - Century Land Warrior/Generation II Soldier System ATD.  
FY94 - Land Warrior Program.  
FY94 - Demonstration at National Training Center. Fort Irwin, CA.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
PARTICIPATION IN SIPE ATTD																												
SIPE TRANSITION SUPPORT																												
NTC																												
PHASE I GEN II DEMO																												
PHASE VI GEN II DEMO																												
LAND WARRIOR DEMO																												

REQUIREMENTS DOCUMENT: Draft ORD, The Enhanced Integrated Soldier System - Dismounted (TEISS), May 92.  
Final Draft Mission Needs Statement.

TYPE CLASSIFICATION: N/A

SOLDIER'S COMPUTER WILL EXTEND AUTOMATED COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE TO THE INDIVIDUAL SOLDIER LEVEL VIA A SMALL, LIGHTWEIGHT, PORTABLE, MISSION-CONFIGURABLE, INTEGRATED COMPUTER SYSTEM.

IEWD



# IEWD

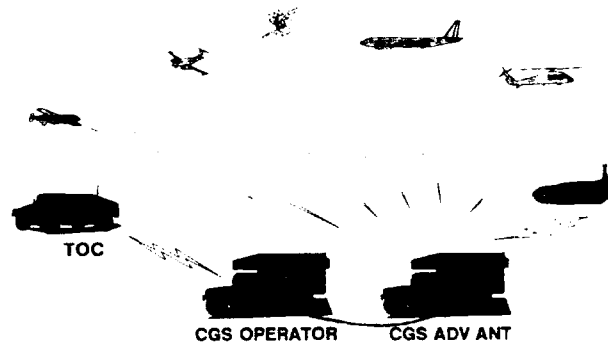
## COMMON GROUND STATION - ADVANCED TECHNOLOGY DEMONSTRATOR (CGS-ATD)

PROJECT LEADER: Mr. Thomas Newsome, DSN 996-5314  
COMM 908/544-5314

PE & LINE #: 63772/D243 63006/D247

DESCRIPTION: The Common Ground Station (CGS) will provide the intelligence and electronic warfare (IEW) community with an expanded modular and scaleable capability to receive, process, correlate, display and disseminate in a readily useable form, the best possible intelligence data from multiple sensors, processors, and other sources in near-real time. The types of sensor data that will be provided as input to the CGS include, but are not limited to: MTI, SAR, SIGINT, IMINT, HUMINT, and reports from C3I processors. The goal of the CGS Advanced Technology Demonstration is to develop a system that will enhance the capabilities of a new OPFAC at Brigade in support of the maneuver brigade commander. The CGS ATD will address the technology required to process the multiple sensor and C3I processor data on a distributed multimedia database, disseminate data to the commander and address antenna technologies leading to multiple input on-the-move operation. Subsequently, its role shall be expanded to provide IEW support at all echelons through Corps as well as fire support.

## **COMMON GROUND STATION ATD Concept**



### HISTORICAL BACKGROUND:

- Sep 90 - PEO IEW Ltr of Support for proposed BTI new start and ATTD citing urgent need for CGS tech base program.
- May 91 - Letter from MG Menoher to SARDA expressing support and endorsement of CGS/intelligence dissemination BTI proposal.
- May 91 - Msg from MG Menoher to DA, LABCOM, PEO IEW and CECOM supporting need for a tech base CGS/intelligence dissemination program.
- Feb 92 - Request from MG Menoher to meet with SARD to emphasize need for CGS ATTD approval in FY93.
- Oct 92 - Start of CGS ATD
- Nov 92 - ROC

### EVENTS SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1				1				1				1				1				1			
Operator Console Development																												
Desert Capture																												
Sensor Database Processor																												
CGS Architecture & Distributed Database Development																												
Simulation & Modeling (DSI)																												
Man-in-Loop Evaluation																												
On-the-Move Technologies																												
External Interfaces																												
Tech Development Demonstrator																												
Intell Dissemination Demo																												
Joint STARS Block II Transition																												

REQUIREMENTS DOCUMENT: ROC - 18 Nov 92

### TYPE CLASSIFICATION:

THE CGS ATD WILL FUNCTIONALLY INTEGRATE VARIOUS SENSORS AND PROCESSORS WITH IEW HARDWARE AND SOFTWARE MODULES TO PROVIDE THE ARCHITECTURAL AND OPERATIONAL FOUNDATION FOR THE COMMON GROUND STATION.

INTELLIGENCE FUSION DEMO (IFD-TD)

PROJECT LEADER: Mr. Chris Bogart, DSN 229-7362  
CJMM 03/349-7362

P# & LINE #: 63270 DK15

**DESCRIPTION:** This effort will test, validate and demonstrate automated tactical data fusion concepts and technology. Using currently available data fusion modules combined with digital battlefield representations, the effectiveness of automated data fusion as an intelligence force multiplier for the commander will be proven through a series of ongoing demonstrations. Field users will assess and validate fusion operations. Integrating software and common interfaces will be developed to coalesce and implement the fusion modules. Through a series of advancing capabilities demonstrations, software and hardware modules will be brought to a usable level of maturity. Modules will be converted into usable products and integrated into tactical intelligence systems such as ASAS and the Common Ground Station. Tactical data fusion will allow the commander to receive timely, correlated information allowing operation within the enemy's decision cycle.

HISTORICAL BACKGROUND:

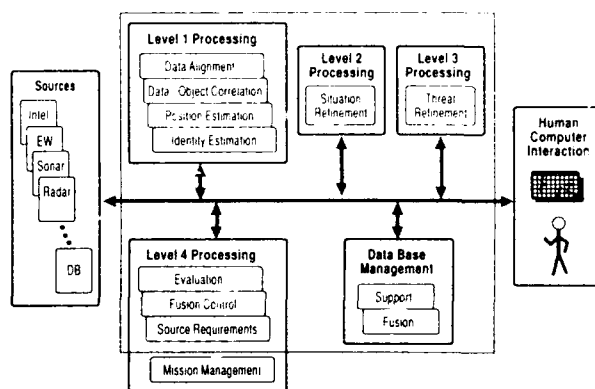
FY92 - Refine prototype and add capabilities.  
FY92 - Convert Tactical SIGINT Support System (TSSS) to SUN Workstation.  
FY92 - Participate in Collateral Enclave ASAS IOT&E.  
4Q92 - Field Demo at V Corps.

EVENTS SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Demo Multi-Level Data Base & Multimedia	!																											
Demo Overlay Reasoning (Terrain Features RF Propagation Algorithms)		!																										
Tech Assessmt Ctr (TAC)/Battle Lab Eval)			!						!																			
Threat Assessment Demo				!																								
Situation Assessment Demo										!																		
101st Abn Div (AASLT) Demo/Evaluation	!	!			!	!			!	!																		

REQUIREMENTS DOCUMENT: N/A

TYPE CLASSIFICATION: N/A

**The Data Fusion Process**

TEST, VALIDATION AND DEMONSTRATION OF AUTOMATED TACTICAL DATA FUSION CONCEPTS AND TECHNOLOGY.

IEWD

MINI-RES SYSTEM

PROJECT OFFICER: Mr. Terry Miloser, DSN 229-7352  
COMM 703/349-7352

PE & LINE #: 612270 906R

DESCRIPTION: The Mini-Res system is a PC based signal analysis workstation with intercept/DF that is tailorable to a variety of missions/customers. The system provides intercept, line of bearing indication, and signal analysis, spanning the HF, VHF, and low UHF bands. The system fits inside two transit cases, and comprises a portable computer with associated antennas. The system is intended for low-profile surveillance and signal capturing scenarios. This system will exhibit analytical capability of signals captured between 0.5 and 1200 MHz, with rudimentary intercept and DF. This system will allow the operator to scan, view, and hear a user-selected portion of the detected RF spectrum for signals of interest from 0.5 MHz to 1200 MHz. The system will provide a form of remote control capability via Ethernet. This system will also provide connectivity to the Army's All-Source Analysis System (ASAS) via Net Radio Protocol (NRP).

HISTORICAL BACKGROUND:

Sep 92 - Contract award.  
Sep 93 - Prototype system delivered.

EVENTS SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Eval Proof-of-Concept System								!																				
System Engineering								!																				
Software Engineering								!																				
System Integration & Debug								!																				
System Verification								!																				
System Delivery								!																				
System Documentation								!																				

REQUIREMENTS DOCUMENT: HQ INSCOM Msg DTG 111600Z Nov 1992

TYPE CLASSIFICATION: N/A

MINI-RES SYSTEM IS A PC BASED SIGNAL ANALYSIS WORKSTATION WITH INTERCEPT/DF THAT IS TAILORABLE TO A VARIETY OF MISSIONS/CUSTOMERS.

## NEW SIGNALS EW (NEWSIG EW-TD)

PROJECT LEADER: Mr. Robert R. Hein, DSN 229-6910  
COMM 703/349-6910

PE & LINE #: 62270 A906

**DESCRIPTION:** The objectives of this project are to develop both generic and specific Electronic Attack (EA) techniques and subsystems for jamming modern forms of communications signals. EA techniques are being developed against predicted communication threats that appear in the commercial communications arena. The development of techniques for jamming communications systems with minimum knowledge of signal parameters, with minimum ES receiver sophistication are included in this effort.

Techniques usable by stand-in UAV and SOJs will be developed through the use of mathematics and computer science for applications into EA processing/control/decision functions. Direction includes neural net approaches and investigation into genetic algorithms and fuzzy logic for the generation of large intermodulation interference free sets of communications frequencies. New logical frameworks for computer science are being researched on the concern with the logical consistency of an AI rule set and the investigation of the Boolean Ring as the basis of a new foundation for AI.

Investigations and demonstrations will also focus on developing techniques for prevention of EA fratricide through smart jammer control (SJC). The SJC fratricide reduction concept being developed emphasizes the smart control of the jammer. This smart control is accomplished by a software algorithm which has two essential functions. First, the battlefield communications environment is evaluated and the fratricide level is quantified. Second, smart control of the jammer is then based upon the blue (friendly) and red (threat) net priorities, the predetermined rules of engagement and the acceptable fratricide level. The first function evaluates and quantifies battlefield communications while the second function implements command direction. This approach allows the jammer to be used as an integrated, coordinated battlefield resource. The key attribute of this approach is that while it will not eliminate all fratricide all of the time, it will insure that the fratricide level is always contained within the established, acceptable limits. The SJC can be used as a real time jammer controller or as an effective, thorough asset planning and analysis tool.

#### HISTORICAL BACKGROUND:

FY90 - Fratricide Avoidance contract awarded.  
FY91 - SBIR High Speed Processor technology transitioned into program.  
FY92 - Expert Rule development initiated.  
FY93 - IEWTAC Project Assessment.

#### EVENTS SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
High Speed Processor Delivery																												
SJC Testbed Integration																												
HSP Integration into SJC																												
ECM Laboratory Testing																												
SJC Validation Testing																												

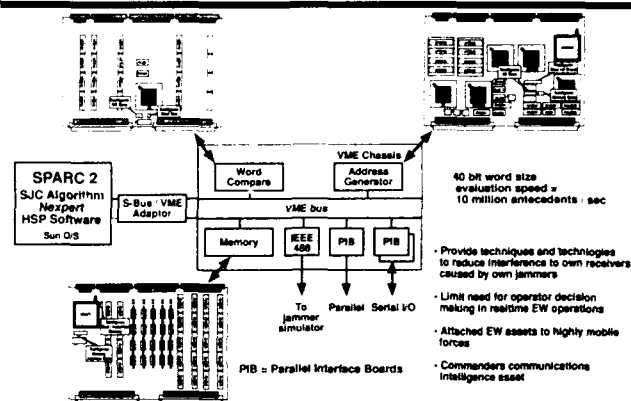
REQUIREMENTS DOCUMENT: N/A

TYPE CLASSIFICATION: N/A

NEW SIGNALS EW IS A DEMONSTRATION OF AUTOMATED CONTROL OF JAMMING SYSTEMS.

### Communications ECM New Signals EW Smart Jammer Controller

U.S. Army CECOM - RDEC  
Intelligence and Electronic Warfare Directorate



# STAND-IN COMMUNICATIONS COUNTERMEASURE DEMONSTRATION (SICCM-TD)

PROJECT OFFICER: Mr. Robert Hein, DSN 229-6910  
COMM 703/349-6910

PE & LINE #: 63270 DK15

**DESCRIPTION:** The objective of this task is to develop prototype communications system jammer payloads for use in unmanned aerial vehicles (UAV). Tasks include: develop and evaluate candidate architectures, components, jamming waveforms for UAV operation; develop directive antenna arrays for UAVs; and develop commonality between IEWCS components and systems.

The Stand-In Communications Countermeasures (SICCM) Jammer Program is planned as a sequence of empirical and analytical phases that will evaluate the effectiveness of the analog and digital jammer architectures against victim links. The ultimate output of this effort shall be the development of a Type-A Specification which describes enhanced equipment architectures that eliminate or ameliorate determined weaknesses and vulnerabilities of the breadboard GFE jammer equipment to AJ and ECCM techniques of existing and projected victim links, as well as to emitter composition/densities in its spectral environment. Enhancements shall also cover improved component technology insertion and judicious sub-function partitioning to introduce equipment modularity for flexible system configurations that address a breadth of emitter environment scenarios with an eye toward space-efficient and cost-effective solutions. In particular, the Short Range Unmanned Airborne Vehicle Platform shall be the guiding application.

The first phase involves the initial set-up and checkout of the breadboard GFE jammer equipment so as to establish its functional integrity and to attain first-hand working knowledge of its capabilities. The second phase involves the test results on the Jammer B equipment to predict its expected performance against various victim links and combinations thereof. An evaluation of the component technology used to implement the equipment will be made to ascertain whether or not improvements in signal detection and jamming performance can be realized through the insertion of advanced component technology. A recommendation will be made on those items that can be upgraded in the near term vs far term to enhance the basic breadboard GFE jammer equipment performance. The third phase will initiate a mission requirements analysis which will be used in conjunction with the analysis of the existing Jammer B to formulate a set of enhanced equipment architectures for evaluation either by direct laboratory measurements or by behavioral modeling and simulation via computer. Evaluation through modeling / simulation shall be used where significant changes in architecture render hardware modifications to and direct measurements of the breadboard GFE jammer equipment impractical. Simulation results shall be used as feedback to improve the characteristics of a given architecture until the desired mission requirements are met. This culminates with a recommended approach for the SICCM payload.

## HISTORICAL BACKGROUND:

FY91 - Project Start  
FY92 - GFE utilization set-up complete  
FY92 - Model and Demonstration  
FY93 - IDR

## EVENTS SCHEDULE:

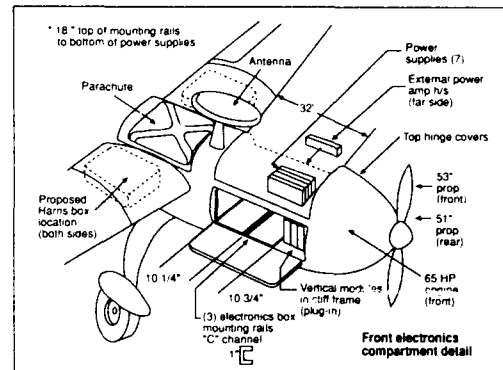
FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
INITIAL DESIGN																												
IDR																												
DETAIL DESIGN																												
SPECIFICATION DEVELOPMENT																												
PROGRAM REVIEW																												
FINAL REPORT																												
FINAL DESIGN REVIEW																												
UAV-SR EW PACKAGE INTEGRATION STUDIES																												

REQUIREMENTS DOCUMENT: N/A

TYPE CLASSIFICATION: N/A, technology will be transitioned/integrated into UAV ECM capability.

SICCM-TD IS A DEMONSTRATION OF A UAV MOUNTED COMMUNICATIONS JAMMER.

## Communications ECM Stand-In Communications Countermeasures Demo SR-UAV Draft Payload Planning / Design



IEWD

STAND-OFF COMMUNICATIONS COUNTERMEASURE DEMONSTRATION  
(SOCCM-TD)

PROJECT OFFICER: Mr. Robert Sowers, DSN 229-6909  
COMM 703/349-6909

PE & LINE #: 63270 DK15

**DESCRIPTION:** Standoff Communications Countermeasures. The objective of this task is to conduct a series of demonstrations of advanced EA appliques that will enhance jammer system effectiveness against modern communications signals. A major goal of this demonstration will be to demonstrate jammer capabilities which will be transitioned into the Intelligence Electronic Warfare Common Sensor (IEWCS) ES system. Demonstrations will be breadboard appliques integrated into existing inhouse available systems for proof of concept demonstrations. Technology demonstrations will include: effectiveness investigations into "brilliant jamming" strategies, investigations into and demonstrations of "smart jamming" techniques against potential threat tactical radio systems, demonstration and testing of techniques which provide capability for continuous lookthrough outside the bandwidth of the jammer signal, and demonstration and testing of a digital signal jammer. An Own Jamming Excision (OJE) system, which employs the continuous listen-while jam technique, is being developed. The system will detect communication signals in the background of its own collocated high power jamming signal (i.e., without shutting off the jammer transmitter). A final technology demonstration will evaluate and test the TACJAM-A prototype in support of GBCS EDM and Block II upgrade programs.

HISTORICAL BACKGROUND:

FY90 - Digital Jammer program initiated.  
FY92 - OJE transitioned from SBIR into P6 Phase III program.  
FY92 - Smart jamming initial concept demonstrated.  
FY92 - Hybrid jammer Brassboard hardware completed.  
FY93 - Frequency superresolution program completed.

EVENTS SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Brilliant Jamming																												
Smart Jamming																												
OJE																												
OJE Testbed Evaluation																												
Digital Jammer																												

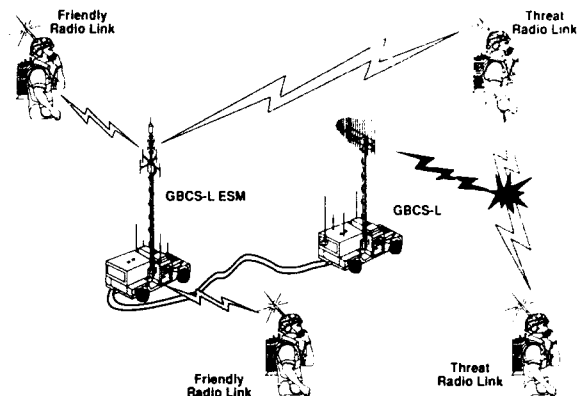
REQUIREMENTS DOCUMENT: N/A

TYPE CLASSIFICATION: N/A

SOCCM-TD IS A DEMONSTRATION OF COMMUNICATIONS JAMMER TECHNIQUES.

**GBCS-L**  
**Remote Jamming**

US Army DECOM RDEC  
**IEWD**  
Intelligence and Electronic Warfare Directorate



IEWD

TARGET DEVELOPMENT UNIT (TDU II)

PROJECT LEADER: Mr. Terry Miloser DSN 229-7352  
COMM 703/349-7532

PE & LINE #: 612270 906R

DESCRIPTION: IEWD recently completed the development of a new High Frequency (HF) signal collection and analysis system (TDU I). IEWD has recently been tasked to build two additional TDU's with enhancements. TDU II will be a multiple receiver/recorder system that automatically makes digital recordings of active signals in the HF environment. TDU II is capable of receiving tasking either remotely via Ethernet or locally by computer operator command and automatically storing signal cut information to a database. The five-rack system comprises three operator workstations housed in an S-280 Tempest shelter. IEWD will be developing the TDU software in-house, using the C++ programming language. The off-the-shelf hardware will be procured and cabled under the Quick Reaction Capability (QRC) contract. TDU II is scheduled to be fielded by Sep 94 and integrated into the AHFEWS system.

HISTORICAL BACKGROUND:

Dec 92 - Delivered TDU I to IEWD-SPO/PMSW and 201st.

EVENTS SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
To Be Determined																												

REQUIREMENTS DOCUMENT: AHFEWS ROC, 16 Jan 92.

TYPE CLASSIFICATION: AN/TRX-2

TDU II WILL BE A MULTIPLE RECEIVER/RECORDER SYSTEM THAT AUTOMATICALLY MAKES DIGITAL RECORDINGS OF ACTIVE SIGNALS IN THE HF ENVIRONMENT.

IEWD

CLASSIC TROJAN

PROJECT MANAGER: Mr. Leonard Schalburg, DSN 229-5271  
COMM 703/349-5271

PE & LINE #: BA0326

DESCRIPTION: The TROJAN architecture consists primarily of three subsystems, i.e., Remote Receiver Group (RRGs), Monitor Control Group (MCGs) and a supporting communications architecture. RRGs consist of multiple sensor and antenna subsystems strategically located at various Remote Collection Facilities (RCFs). MCGs are located at a Central Operating Facility (COF) at garrison locations of MI units. The communications system is a dedicated full-duplex communications network which links the RCFs and the COFs via the TROJAN Switching Center (TSC), Fort Belvoir, VA. The TSC provides switched connectivity of any MCG to any RRG and also enables secure voice and data communications among all sites within the system. Initiatives within the TROJAN program include operational upgrades with the requisite software and hardware configuration changes and an enhanced communications connectivity to allow for access into national level data bases, and to enhance dissemination of intelligence products to tactical MI units in support of battlefield commanders.

HISTORICAL BACKGROUND: The TROJAN program was instituted in 1982 to correct three deficiencies concerning 98 CMF personnel related functions: low technical productivity in-garrison, lack of equipment on which to train, and lack of command emphasis on the need for MOS related proficiency.

EVENTS SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
MCG++ Upgrades - Prototype Fielding										1																		
RRG++ Upgrades - Prototype Fielding										1																		
TSC Upgrades										1																		

REQUIREMENTS DOCUMENT: Nov 87

TYPE CLASSIFICATION: AN/FSQ-144, Jun 82

CLASSIC TROJAN



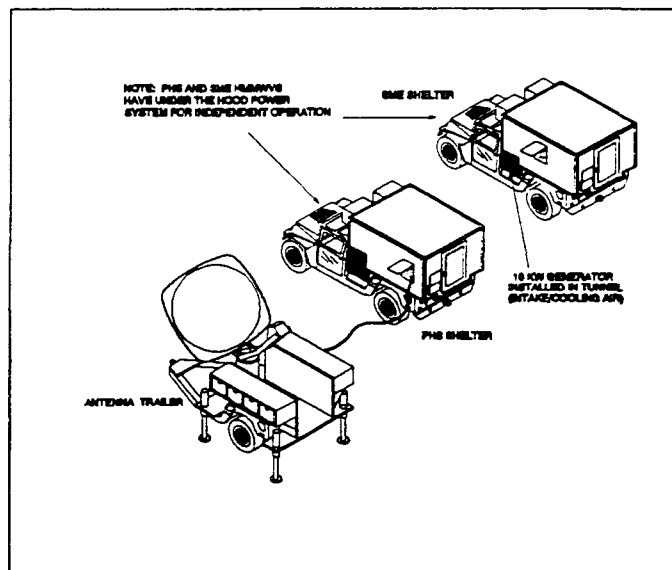
IEWD

TROJAN SPECIAL PURPOSE INTEGRATED REMOTE INTELLIGENCE  
TERMINAL (SPIRIT II)

PROJECT MANAGER: Mr. Leonard Schalburg, DSN 229-5271  
COMM 703/349-5271

PE & LINE #: BA03320/BA03330

DESCRIPTION: The TROJAN Special Purpose Integrated Remote Intelligence Terminal (SPIRIT II) system provides tactical commanders a mobile intelligence processing and dissemination capability with direct message access via the Automated Digital Network (AUTODIN), classified Electronic-Mail (E-Mail) service, Secondary Imagery Dissemination System (SIDS), and access to worldwide intelligence data bases through Defense Secure Networks (DSNET) 1 (collateral) and 3 [Sensitive Compartmented Information (SCI)] through the TROJAN Switching Center (TSC) located at Fort Belvoir, VA. The TROJAN SPIRIT II terminals will enhance both the operational and physical characteristics of the thirteen original TROJAN SPIRIT systems. The operational differences between TROJAN SPIRIT I.V and II are primarily the Echelon Above Corps (EAC) availability of an X-band satellite communications (SATCOM) terminal using a sixteen foot antenna, back-up communications and external connection capabilities.



HISTORICAL BACKGROUND: The TROJAN SPIRIT I systems were developed and fielded to the Kuwaiti Theater of Operation (KTO) as a quick reaction capability to support the Military Intelligence force structure from tactical Division Echelons Corps and Below (ECB) to strategic EAC commands. At the conclusion of combat operations in the KTO, the TROJAN SPIRIT systems have continued to support ongoing CENTCOM operational requirements, including Somalia, as well as supporting major training exercises of the XVIIIth Airborne Corps, III Corps, V Corps, and I Corps. The MI Relook Task Force (3QFY91) determined the TROJAN SPIRIT II should be included in the TO&E for MI Battalions. ORD approved Dec 92.

EVENTS SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1				1				1				1				1				1			
Contract Award																												
Preliminary Design Review																												
Critical Design Review																												
First Production Unit Test																												
Limited Users Test																												
Milestone IIIB																												
FUE																												

REQUIREMENTS DOCUMENT: Operational Requirements Document for the TROJAN SPIRIT dated 15 Dec 92.

TYPE CLASSIFICATION: Generic, Standard - Mar 94 AN/TSQ-190, Jun 93

TROJAN SPIRIT II

IEWD

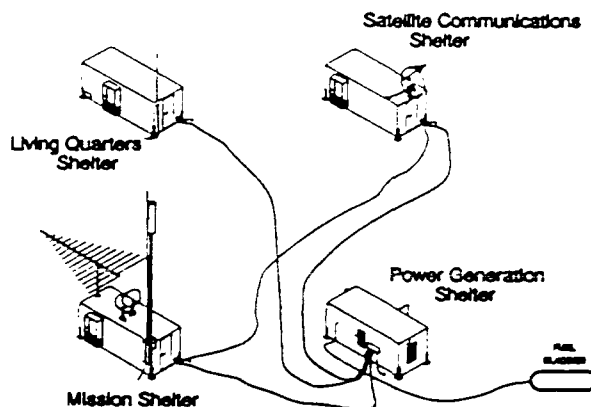
TROJAN AIR TRANSPORTABLE ELECTRONIC RECONNAISSANCE SYSTEM  
(TATERS)

PROJECT MANAGER: Mr. Leonard Schalburg, DSN 229-5271  
COMM 703/349-5271

PE & LINE #: BA0326

DESCRIPTION: The TROJAN Air Transportable Electronic Reconnaissance System (TATERS) program draws heavily on the technology previously fielded in the TROJAN program and as such relies on Non-Developmental Items (NDI) equipment for integration into its subsystems. The equipment used in the TATERS system is commercial off-the-shelf and build to print. TATERS has a modular design consisting of four subsystems, and each subsystem resides in a separate shelter. The four subsystems are: a. Common Hardware Intelligence Processing Subsystem

- (CHIPS); Receiver Group, OR-366/TSQ-191(V).
- b. Satellite Communications INTELSAT/DSCS Node 1 Subsystem (SCINS); Communications Subsystem, OZ-73/TSQ-191(V)
- c. Primary Electrical Equipment Life Support (PEELS); Power Plant, Electric, PU-812/TSQ-191(V).
- d. Temporary Occupancy Troop Shelter (TOTS); Shelter, Non-expandable, S-792/TSQ-191(V).



HISTORICAL BACKGROUND: In June 1990, nQDA tasked the SIFO to develop the TATERS system, nomenclatured AN/TSQ-191(V), Acquisition System, Signal Data, which would provide a worldwide, forward-deployed configuration capable of a quick-reaction response to low-to-high intensity conflicts and counternarcotics applications. To minimize training requirements, TATERS would utilize the monitoring and detection technology already proven in the TROJAN system, and be compatible with the present TROJAN communications architecture. Mission requirements may dictate TATERS deployment to remote locations such as mountain tops in order to achieve line-of-sight positioning. Consequently, TATERS must operate in harsh environments and must be self-sufficient for extended periods of time.

EVENTS SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1				2				3				4				1				2			
Communications Subsystem, OZ-73/TSQ-191(V) EUTELSAT Testing																												

REQUIREMENTS DOCUMENT: Annex to TROJAN Requirements Document

TYPE CLASSIFICATION: N/A

TATERS

NVESD

NVESD

AN/PDR-75, RADIAC SET

PROJECT OFFICER: Mr. Michael Basso, DSN 996-5992  
COMM 908/544-5992

PE & LINE #: A-16-05187 BLIN 605187

DESCRIPTION: The AN/PDR-75, Radiac Set is composed of the Computer Indicator Radiac CP-696/PDR-75 (Reader), Carry Case CY-8420/PDR-75, and three power cables. The Dosimeter (DT-236/PDR-75) is designed to measure short duration, high intensity neutron radiation and prompt gamma radiation resulting from nuclear explosions and gamma rays from fallout. The dosimeter is contained in a two-part case and is a type that can be worn the same as a wristwatch. The reader is capable of opening, reading, and closing the dosimeter. Two separate reading elements contained in the Reader consisting of an ultra violet light source, filters, and a light detector for reading the gamma dose, plus a constant current source and peak reading voltmeter for reading the neutron dose. A digital meter displays a combined reading of the two separate reading elements. The range of the system is one to one thousand centigray. The CP-696/PDR-75 is powered from a 24 volt DC source.



HISTORICAL BACKGROUND:

Mar 80 - DT/OT completed.  
Sep 84 - First Production contract awarded to Fisher Controls Limited.  
Sep 85 - First Article Test completed.  
Aug 86 - Second Production contract awarded to Fisher Controls Limited (now Plessey Controls Limited).  
Jul 87 - Third Production contract award, (two contractors) 50% Small Business Set Aside - Sechan Electronics, Lititz, PA, and 50% unrestricted - Harshaw/Filtrol (now Engelhard Corporation), Solon, OH.  
Aug 87 - Delivery of equipment from first Production contract (with secure lighting retrofit).  
Jun 89 - First Unit Equipped.  
Aug 92 - Fourth Production contract awarded to Nuclear Research Corp., Dover, NJ.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
FIRST EQUIPMENT DEVLIVERY					1																							

REQUIREMENTS DOCUMENT: DA approved Materiel Need for individual (Personal) Dosimetry Equipment, 13 Feb 73, CARDS Paragraph 1212b(28).

TYPE CLASSIFICATION: Standard approved, Aug 83.

AN/PDR-75 IS A NUCLEAR RADIATION DETECTION SYSTEM USED TO MEASURE AND READ-OUT NEUTRON AND GAMMA RADIATION ABSORBED DOSE RESULTING FROM NUCLEAR EXPLOSIONS AND GAMMA RAYS FROM FALLOUT.

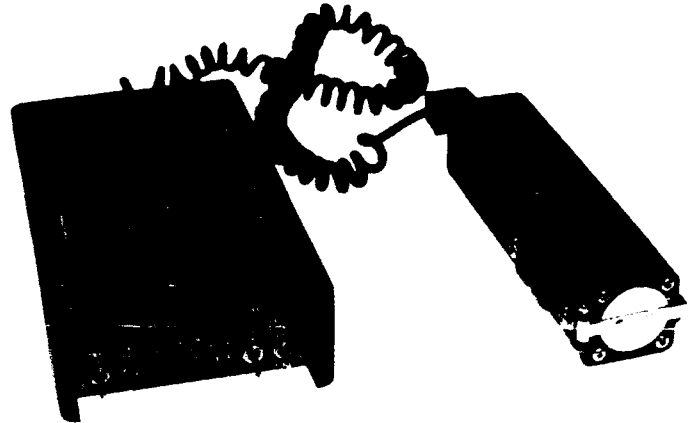
# NVESD

## AN/VDR-2, RADIAC SET

PROJECT OFFICER: Mr. Walter Swaylik, DSN 996-5639  
COMM 908/544-5639

PE & LINE #: BLIN 805185

DESCRIPTION: The AN/VDR-2 as a single instrument can perform ground radiological surveys in vehicles or in the dismounted mode by individual soldiers as a hand held instrument. It can also provide a quantitative measure of radiation to decontaminate personnel, equipment and supplies. The components of the Radiac Set include the Radiacmeter IM-243, Probe DT-616, and Pouch with strap. The M1, M2, M80, M113/577, M151, M880, M998, and M1008 vehicles are designated for radiac installation by the user. Installation kits for these vehicles are Common Table of Allowances (CTA) items. Initial fielding of kits to USAEUR is for M1, 2/3, M113, M998, and M1008 vehicles. The Army Chemical Research and Development Center, APG, MD uses a specially modified AN/VDR-2 in the NBC Reconnaissance Concept Evaluation Program. This program provides for a RECON vehicle (M113 and M2) to survey contaminated areas. The AN/VDR-2 modified with a digital serial port computer interface will detect radiation levels and display them remotely on a vehicular computer. AN/VDR-2 is intended to replace, on a one-to-one basis, the Radiac Sets IM-174/PD and AN/PDR-27().



### HISTORICAL BACKGROUND:

1976/77 - Procurement of prototype digital radiac sets from MDH Industries, Xetex, Inc., and RCA  
1979 - Procurement of Advanced Development model of AN/VDR-2 from Xetex, Inc.  
1980 - QMR revalidated; Procurement of Advanced Model Digital Radiac (breadboard) from NRC.  
1982 - Cancellation of AN/VDR-1 in favor of AN/VDR-2.  
1983/84 - Procurement of NRC Test Models and DT Testing of Xetex and NRC Radiacs.  
1984 - OT Testing of Xetex and NRC Radiacs.  
1986 - Award Production contract DAAB07-86-C-P038 to NRC.  
May 87 - Exercised Option for 2167 units.  
Aug 87 - Exercised Option for 238 units.  
Nov 87 - Production began.  
Mar 88 - Exercised Option for 3019 units.  
Sep 89 - Competitive Production contract awarded.  
May 90 - Second Program Year awarded.  
Jan 91 - Third Program Year awarded.  
Aug 92 - Competitive Production contract award.  
May 93 - Second program year awarded.

### EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
FOLLOW-ON COMPETITIVE FY92 PRODUCTION																												

REQUIREMENTS DOCUMENT: Qualitative Materiel Requirement (QMR) for Tactical Survey Meter and Vehicle Radiac System  
AN/VDR-1 CARDS Para 1239a(17)(U), Mar 71, revalidated by USATRADOC, Mar 80 for the AN/VDR-2.

TYPE CLASSIFICATION: Standard (NDI) approved 1985.

AN/VDR-2 PERFORMS GROUND RADIOLOGICAL SURVEYS IN VEHICLES OR BY INDIVIDUAL SOLDIERS AS A HAND HELD INSTRUMENT.

## NVESD

### ADVANCED AIR DEFENSE ELECTRO-OPTICAL SENSOR (AADEOS)

PROJECT OFFICER: Mr. Todd Carr, DSN 654-3061  
COMM 703/704-3061

PE & LINE #: 63710/DK70-33

DESCRIPTION: The AADEOS is an advanced ground-based Infrared Search and Track (IRST) system. It is capable of providing autonomous, 360 degree, passive acquisition and simultaneous tracking of multiple aircraft against various backgrounds at Forward Area Air Defense (FAAD) engagement ranges. The primary focus of this system is the Detection of inbound attack and pop-up helicopters in high clutter environments. The system comprises an Infrared Receiver, a Signal and Data Processor and Displays and Controls Module. AADEOS was selected as one of the Army's Advanced Technology Demonstration (ATD) programs. Candidate applications for AADEOS include the Bradley Fighting Vehicle for Air Defense, Avenger, a stand-alone scout for Light and Special Forces Divisions and an adjunct to the Ground Based Sensor (GBS).

#### HISTORICAL BACKGROUND:

Dec 88 - AADEOS Acquisition Plan Approved.  
Jan 89 - Milestone 0 Decision.  
Aug 89 - Contract award to General Electric.  
Nov 91 - AADEOS delivery.  
Sep 93 - User demonstration/System test. End of ATD.



#### EVENTS SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
TECHNICAL TEST/USER DEMONSTRATION	!																							
TEST INTEGRATION WORKING GROUP	!																							
IPR I/II				!																				
USER DEMONSTRATION				!																				

REQUIREMENTS DOCUMENT: FAAD Capstone ROC, 6 Jun 1986.

TYPE CLASSIFICATION:

AADEOS IS AN ADVANCED GROUND-BASED IRST SYSTEM CAPABLE OF PROVIDING AUTONOMOUS, 360 DEGREE, PASSIVE ACQUISITION AND SIMULTANEOUS TRACKING OF MULTIPLE AIRCRAFT FOR FAAD.

NVESD

ADVANCED IMAGE INTENSIFIER - ADVANCED TECHNOLOGY  
DEMONSTRATION (AI2 ATD)

PROJECT OFFICER: Mr. Brian Gillespie, DSN 654-1214  
COMM /03//04-1214

PE & LINE #: PE 63710A/DK86

DESCRIPTION: The AI2 ATD is the next generation Night Vision goggle directed toward satisfying expressed user needs for increased field-of-view (FOV) and improved visual acuity in an image intensified, direct view system. These performance improvements will be achieved through the utilization of novel optical technologies and advanced technologies for intensifier tube fabrication. AI2 ATD will additionally address expressed user needs for integrated symbology and will utilize experience gained from currently fielded intensifier systems to improve human factors. These advancements will significantly improve operational effectiveness and reduce workload. AI2 ATD will demonstrate technologies applicable to a follow-on to the AN/AVS-6 and AN/PVS-7. It is intended for use by the dismounted soldier as well as in the Army's cargo, utility, and current scout aircraft.



HISTORICAL BACKGROUND:

Dec 90 - AI2 ATD approved by Senior Advisory Group.  
Jan 92 - Technical feedctr contracts awarded.

EVENTS SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98			
	QTR																							
AWARD CONTRACT(S)				!																				
PRELIMINARY DESIGN REVIEW				!																				
BRASSBOARD SYSTEM(S)					!																			
CRITICAL DESIGN REVIEW						!																		
IN PROCESS REVIEW							!																	
DEMONSTRATORS DELIVERY								!																
NVEOD LAB/FIELD TESTS									!															
USER OPERATIONAL TESTS										!														
TEST REPORT COMPLETE											!													
TRANSITION DECISION												!												

REQUIREMENTS DOCUMENT: It is intended to modify ANVIS ROC for added performance capabilities provided by APA.

TYPE CLASSIFICATION:

AI2 IS AN ADVANCED INTENSIFIER SYSTEM PROVIDING KEY FOV, VISUAL ACUITY, SYMBOLOGY, AND HUMAN FACTORS TO ENHANCE OPERATIONAL EFFECTIVENESS AND REDUCE WORKLOAD FOR GROUND SOLDIERS AND AVIATORS.

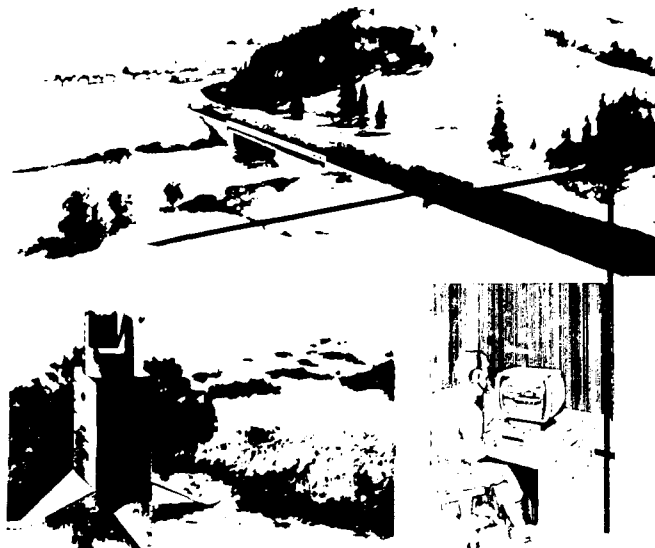
# NVESD

## REMOTE SENTRY ADVANCED TECHNOLOGY DEMONSTRATION (RS ATD)

PROJECT MANAGER: Mr. Joe Brooks, DSN 654-1251  
COMM 703/704-1251

PE & LINE #: 63710 DK70 53

DESCRIPTION: The RS ATD is a program that will demonstrate multi-sensor fusion techniques which can be applied toward developing affordable and lightweight modular systems for use in remote area surveillance and reconnaissance. With the need for reduced manpower, a low-cost autonomous sensor capability is critical to fill the gap to provide remote surveillance. RS will fuse existing low-cost portable sensors and will demonstrate the capability to provide area surveillance during limited visibility day-night operation. RS ATD will lead to a Technical Data Package for the Engineering and Manufacturing Development of a lightweight fully automated RS system.



### HISTORICAL

Nov 90 - Remote Sentry approved as an ATD by the Senior Advisory Group.

### EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
CONTRACT AWARD					!																							
CONTRACT DATA REQUIREMENTS									!																			
DEMONSTRATION													!															

REQUIREMENTS DOCUMENT: Technical Development Plan, HQ TRADOC.

TYPE CLASSIFICATION:

RS ATD IS DIRECTED TOWARDS SATISFYING THE USER NEED TO AUTONOMOUSLY ACQUIRE TARGETS IN REMOTE AREAS.



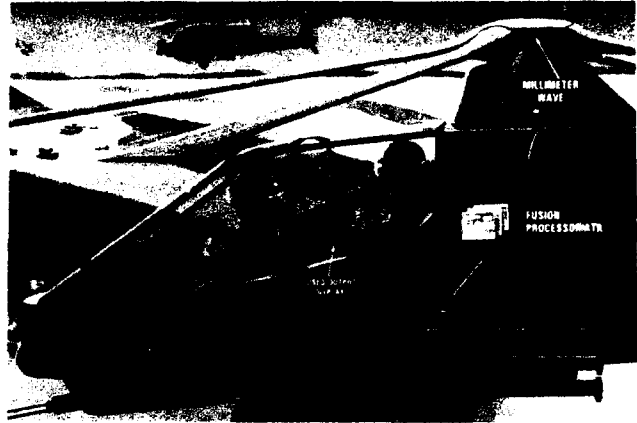
# NVESD

## MULTI-SENSOR ACQUISITION AND TARGETING FOR AIRBORNE SYSTEMS (MSAT-AIR)

PROJECT OFFICER: Dr. Donald Reago, DSN 654-1301  
COMM 703/704-1301

PE & LINE #: 63710 DK70

DESCRIPTION: The MSAT-AIR demonstrates multi-sensor fusion in an operational environment against tactical targets utilizing second generation Forward Looking Infrared (FLIR) and Millimeter Wave (MMW) radar sensors. This demonstration will result in a Technical Data Package for an operations effectiveness of multi-sensor target acquisition for the Light Helicopter (LH) and Apache programs. This effort is directed toward satisfying LH needs to transition from Aided Target Detection and Classification (ATD/C) to Aided Target Recognition (ATR) at longer ranges, over larger search sectors, and within shorter time lines. The potential also exists to explore the application of the technology demonstrated from MSAT-AIR fusion processing to ground combat vehicles.



### HISTORICAL BACKGROUND:

- 1986-89 - Multi-sensor Fusion Demonstration.
- 1988-90 - Multi-sensor Feature Level Fusion Program.
- 1990-91 - AAWWS and Infrared Data Evaluation Program.

### EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
SOFTWARE - DEVELOP/SIMULATE				!																								
ALGORITHM EVALUATION				!				!																				
SHOP PROCESSOR				!																								
AIR PROCESSOR				!																								
INTEGRATION - PROCESSOR CHECK				!				!																				
DEMONSTRATION									!			!																
TECHNICAL DATA PACKAGE												!																
INTERFACE CONTROL WORKING GROUP (ICWG)		!	!		!	!																						

REQUIREMENTS DOCUMENT: Generic Technology Prototype. Future Army requirements are addressed in LH ROC.

### TYPE CLASSIFICATION:

MSAT-AIR PROVIDES MULTI-SENSOR AIDED TARGET RECOGNITION WITH FEWER FALSE ALARMS AT LONGER RANGES, OVER LARGER SEARCH SECTORS, AND WITHIN SHORTER TIME LINES.

NVESD

OBSTACLE AVOIDANCE SYSTEM (OASYS)

PROJECT OFFICER: Mr. Robert Branigan, DSN 654-1373  
COMM 703/704-1373

PE & LINE #: 63710 DK86

DESCRIPTION: The OASYS is an active laser scanning system for detection and warning of obstacles located within the flight path of a helicopter. Obstacles include wires, trees, towers, antennas, and terrain features. The system scans the volume of space in front of the helicopter and then processes the laser returns to determine the presence and location of obstacles. Hazard warnings are presented to the pilot on his pilotage display.

**SCENARIO**



**WHAT PILOT SEES**



HISTORICAL BACKGROUND:

- 1988-89 - Flight Simulation Study
- 1989 - Non-Developmental System Evaluation.
- 1990 - OASYS Development contract awarded.
- 1991 - Flight simulation to study man-machine-interface.
- 1992 - Contract to develop alternative laser radar source awarded.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
OASYS DEVELOPMENT	!																											
USER FLIGHT TEST	!_!																											
ENGINEERING & MANUFACTURING DEVELOPMENT					!																							

REQUIREMENTS DOCUMENT: Draft O&O Plan, Feb 89.

TYPE CLASSIFICATION:

OASYS IS A WARNING SYSTEM TO ALERT HELICOPTER PILOT OF OBSTACLES WITHIN THE FLIGHT PATH.

SED

SED

ARMY INTEROPERABILITY NETWORK (AIN)

PROJECT OFFICER: Dr. Myron Holinko, DSN 992-8288  
COMM 908/532-8288

PE & LINE #: 64805 097

DESCRIPTION: The AIN is the Army's nationwide distributed network for supporting software and interoperability of Army systems throughout their life-cycle. AIN's Central Control at Fort Monmouth, New Jersey interconnects Army Tactical Command and Control System Life Cycle Software Engineering Center (LCSEC) sites, the tactical communications LCSEC site, other Army test agencies/sites, joint services/agencies tactical C3I systems/testbed, and combined allied systems/testbeds (future). AIN provides the capability to develop, test, and maintain the software and interoperability of C3I systems from remote locations, by affording access to the actual interfacing C3I systems. AIN is a means of ensuring C3I systems work before and after fielding through proper software, integration and interoperability testing. It is available for use by developers, testers, evaluators, and maintainers of Army C3I systems. The AIN is operational and successfully serving a growing number of users.



HISTORICAL BACKGROUND:

Apr 91 - AIN Central Control operations began; First customer test support using T1 (1.544Mbps) communications.  
Jul 91 - MSE X.25 Protocol testing capability established.  
Sep 91 - Transportable Remote Site System developed.  
Nov 91 - Block 0 Remote Sites installations completed; TACSAT interface capability established.  
Feb 92 - SINCGARS Radio interface capability established.  
FY93 - Supported more than 50 tests over more than 200 test-days.  
FY93 - Installed new sites of Space Systems, Bldg 906; Myer Center; NESEA (C4IFTW); & Ft. Gordon Battle Lab.  
FY93 - Established connections to DDN & AUTODIN; remote packet LAN service; remote MSRT capability; & dial-in service.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
INTEROPERABILITY DEVELOPMENT & TEST SUPPORT																												
ADD REQUIRED NETWORK SITES																												
ESTABLISH DSI CONNECTION																												
IMPLEMENT TERIS PHASE-1 NET																												
BEGIN BLOCK-1 IMPLEMENTATION																												

REQUIREMENTS DOCUMENT: HQ AMC approved ACCS CMIT Plan, Jun 86; System Engineering Implementation Plan, Feb 84; JINTACCS Army Management Plan (JAMP), Mar 86. ATCCS Test and Evaluation Master Plan (Revision 1), Jan 88. O&O Plan, Apr 90; Statement of Requirement, Dec 90.

TYPE CLASSIFICATION:

ARMY INTEROPERABILITY NETWORK PROVIDES THE TOOLS TO EFFECTIVELY CLOSE THE GAP BETWEEN THE DEVELOPER, TESTER, TRAINER, AND IMPLEMENTOR OF ARMY C3I SYSTEMS AND THE METHODOLOGY FOR CREATING AND MAINTAINING INTEROPERABILITY AMONG THEM.

S&TCD

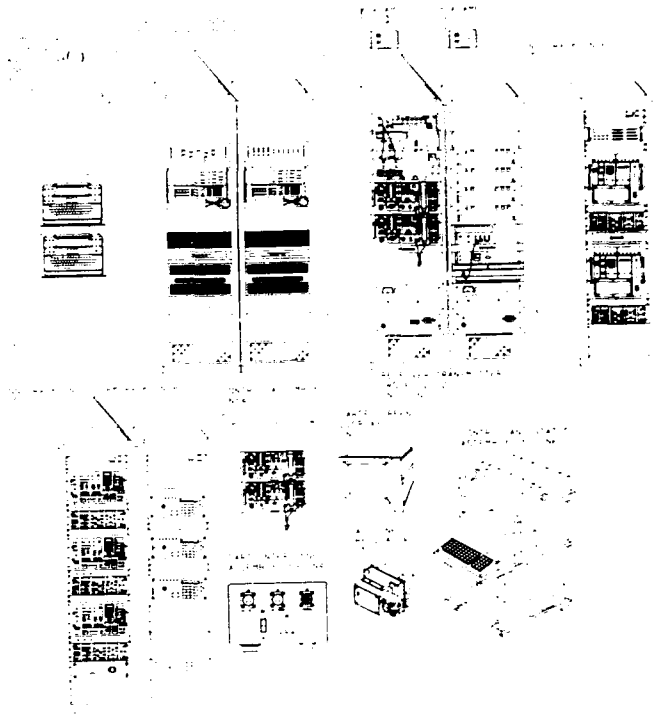
S&TCD

AN/FSQ-124, DEFENSE SATELLITE COMMUNICATIONS SYSTEM GROUND  
MOBILE FORCES CONTROL LINK (DGCL)

TECHNICAL PROJECT LEADER: Mr. Jim Barry, DSN 992-4668  
COMM 908/532-4668

PE & LINE #: K49500

DESCRIPTION: The AN/FSQ-124, DGCL is a control system that plans, controls, and monitors a Ground Mobile Forces Super High Frequency Communications Network operating over a Defense Satellite Communications System (DSCS) Satellite.



HISTORICAL BACKGROUND:

- Sep 81 - NDI IPR approval for production.
- Jun 82 - Production contract award.
- Aug 84 - First Artical Test.
- Apr 85 - Initial Operational Capability.
- May 92 - Requirement for AN/FSQ-124A established by Joint Staff.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
PRODUCTION CONTRACT		1																										

REQUIREMENTS DOCUMENT: DSCS Program Plan FY82-86.

TYPE CLASSIFICATION: Standard approved Sep 81.

DGCL IS A SET OF EQUIPMENT FOR MANAGING THE GMF SATELLITE COMMUNICATIONS SUB-NETWORK. THE SYSTEM INCLUDES EQUIPMENT FOR COMMUNICATING DIRECTIVES AND MEASURING PERFORMANCE.

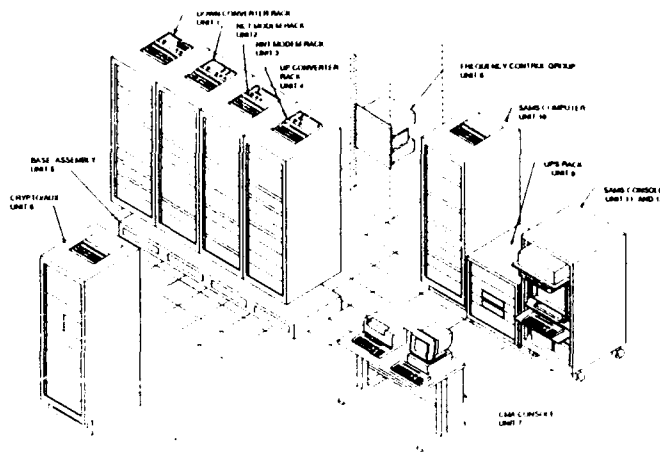
# S&TCD

## AN/FSQ-173/174, NABS SATELLITE COMMUNICATIONS CONTROL CENTRAL (SCCC)

PROJECT LEADER: Mr. Jim Barry, DSN 992-4668  
COMM 908/532-4668

PE & LINE #: K49500

DESCRIPTION: The NATO Air Base Satcom (NABS) SCCC's are composed primarily of equipment common to the AN/FSQ-124 SCCC and are designed to control Ground Mobile Forces (GMF) type terminals. The NABS-SCCC (AN/FSQ-173) will be installed at, and operate within NATO SATCOM facilities to control the NABS network. It was decided not to deploy the one AN/FSQ-174 SKYNET pending fielding of the AN/FSQ-124A.



### HISTORICAL BACKGROUND:

- Sep 87 - NABS/SKYNET SCCC contract award.
- Sep 88 - ECP-001 awarded (ECP added a VAX based SAMS and a Control Monitor and Alarm (CMA) system in NABS).
- Sep 89 - ECP-002 awarded (ECP modified SAMS AJ re-host design).

### EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
FIELDING COMPLETED																												

REQUIREMENTS DOCUMENT: DSCS Program Plan FY 82-86.

TYPE CLASSIFICATION: Standard approved Sep 81.

NABS/SKYNET SCCC WILL PROVIDE OPERATIONAL CONTROL OF A TRANSPORTABLE SATELLITE COMMUNICATION SUB-NETWORK OPERATING ON THE NATO SATELLITE FOR SUPPORT OF NATO AIRBASES AND UNDER THE DIRECTION OF THE NATO SATCOM CONTROL CENTER.

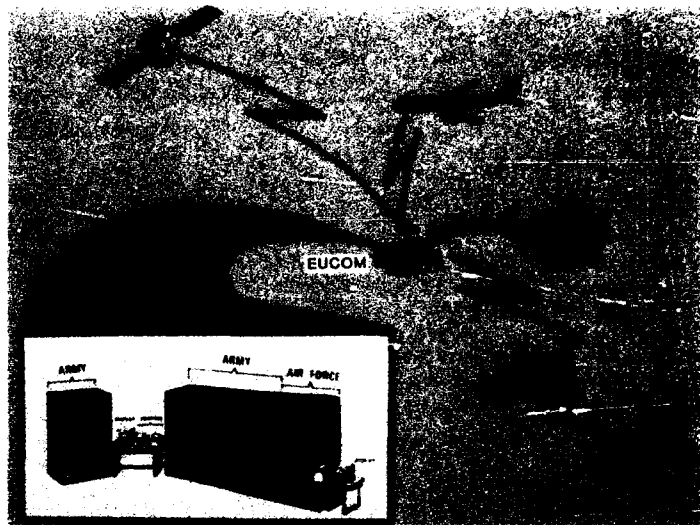
S&TCD

AN/GSC-40, COMBINED GROUND COMMAND POST TERMINAL

PROJECT LEADER: Mr. Nathan Smith, DSN 992-2128  
COMM 908/532-2128

PE & LINE #: 738017Q2

DESCRIPTION: The Ultra High Frequency (UHF) Special Communication System (SCS) ground segment consists of two satellite communications terminals: AN/GSC-40 Combined Ground Command Post Terminal; and AN/MS-64 Force Terminal. AN/GSC-40 is a non-transportable rack configuration designed for installation into fixed command centers. It operates the SCS Force Terminal nets using from one to three kilohertz AFSATCOM channels depending on the number of AN/MS-64s in the net. The system has limited anti-jam (AJ) capability and on-line encryption.



HISTORICAL BACKGROUND:

- Sep 80 - Production MOU signed with Naval Ocean Systems Center (NOSC).
- Mar 81 - Army directed to provide for two terminals to communicate simultaneously through two satellites (dual satellite access).
- Apr 81 - First Article Test completed.
- Apr 83 - First Unit Equipped (Europe).
- May 87 - Initial Operational Capability (IOC) for first seven terminals.
- Sep 89 - Firm requirements received to install SCTR in AN/GSC-40.

REQUIREMENTS DOCUMENT: ROC, Jan 77.

TYPE CLASSIFICATION: Standard approved May 83.

AN/GSC-40 IS A SATELLITE COMMUNICATIONS CONTROL TERMINAL FOR THE UHF SPECIAL COMMUNICATION SYSTEM WHICH HAS LIMITED ANTI-JAM CAPABILITY AND ON-LINE ENCRYPTION. THE AN/GSC-40 IS THE COMMAND POST TERMINAL FOR NETWORKS MADE UP OF AN/MS-64s AND AN/GSC-40s.



## S&TCD

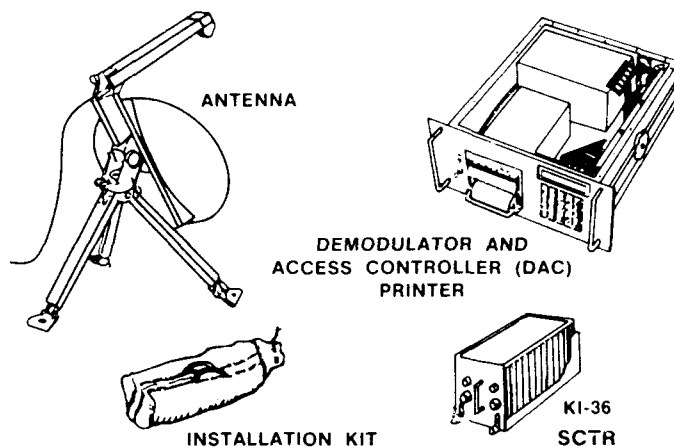
### AN/GSR-42, SINGLE CHANNEL TRANSPONDER RECEIVING SET (SCTRS)

PROJECT LEADER: Mr. Nathan Smith, DSN 992-2128  
COMM 908/532-2128

PE & LINE #: MC

DESCRIPTION: The SCTRS is a Product Improvement to the AN/MSC-64 and AN/GSC-40 Ultra High Frequency (UHF) Satellite Communications Terminals that will permit reception of Emergency Action Messages (EAMs) in the Super High Frequency (SHF) Band. The SCTRS consists of a 3-foot parabolic antenna, demodulator and printer. It is a special purpose receiver. The SCTRS receives from the Single Channel Transponder on DSCS III Satellites.

## SCTR COMPONENTS



### HISTORICAL BACKGROUND:

Feb 87 - NDI contract award to MA/COM Government Systems, Incorporated.  
Mar 89 - Awarded printer Engineering Change Proposal.  
Nov 90 - Transitioned to Level II Management.  
Sep 91 - First Article Test complete.  
Jul 92 - Fielding commenced.

REQUIREMENTS DOCUMENT: ROC, Aug 74.

TYPE CLASSIFICATION: Standard approved Jun 77.

SCTRS RECEIVE EAMs FROM THE SINGLE CHANNEL TRANSPONDER ON DSCS III SATELLITES.

S&TCD

AN/MSC-64, SINGLE CHANNEL UHF SPECIAL COMMUNICATIONS SYSTEM-  
FORCE TERMINAL

PROJECT LEADER: Mr. Nathan Smith, DSN 992-2128  
COMM 908/532-2128

PE & LINE #: 331.42 & E7090

DESCRIPTION: The AN/MSC-64 is an Ultra High Frequency (UHF) Satellite Communication System which receives Emergency Action Messages (EAMs) transmitted from the AN/GSC-40. There are three versions: AN/MSC-64(V)1 (Mobile Command Post); AN/MSC-64(V)2; and AN/MSC-64(V)3 (devanized). Secure record traffic communication is provided by all terminal types. The system makes use of satellites under AFSATCOM and Navy Fleet Satellite programs. AN/MSC-64 terminals (21 Air Force, 12 Army, 2 Navy) are being equipped with a Single Channel Transponder Receiver (SCTR) to provide a secondary receive only capability at certain critical sites to insure reception of critical messages. The SCTR is funded as the Enhanced FAN PIP.



HISTORICAL BACKGROUND:

Jan 74 - NDI decision.  
Sep 78 - Production contract awarded for AN/MSC-64 (all deliveries).  
Feb 81 - Initial Operational Capacity/First Unit Equipped (IOC/FUE).  
Jan 86 - Last operational terminals released to users.  
Feb 87 - Production contract for SCTR PIP was awarded to MA/COM Government Systems, Incorporated.  
Sep 89 - Firm requirement received to install SCTR in AN/MSC-64(V).

REQUIREMENTS DOCUMENT: Original ROC 8-74.

TYPE CLASSIFICATION: Standard approved Jun 77.

AN/MSC-64 IS A UHF SATELLITE COMMUNICATIONS SYSTEM WHICH RECEIVES EAMs TRANSMITTED FROM THE AN/GSC-40.

S&TCD

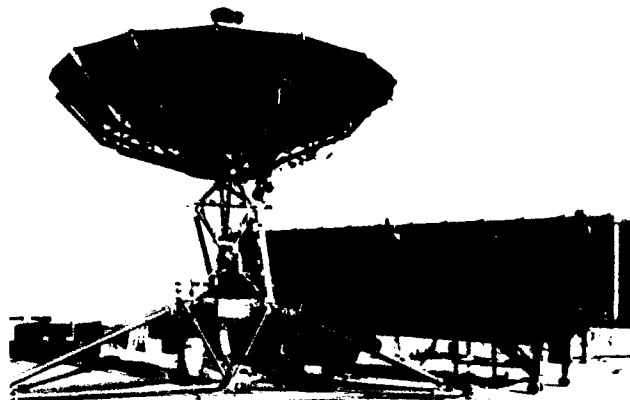
AN/MSQ-114, SATELLITE COMMUNICATIONS CONTROL TERMINAL

TECHNICAL LEADER: Mr. Roland Kurek, DSN 992-3169  
COMM 908/532-3169

PRODUCT LEADER: Mr. Jim Barry, DSN 992-4668  
COMM 908/532-4668

PE & LINE #: K49500

DESCRIPTION: The AN/MSQ-114 is part of the Ground Mobile Forces (GMF) Satellite Communications Control System which is used to manage the satellite communication capability assigned to the satellite terminals operating within the tactical network. The primary function of the AN/MSQ-114 is to continuously monitor satellite communications transmissions for the purpose of assuring that all network terminals are operating within the proper limits of frequency, power output and channel capacity. AN/MSQ-114 will also reconfigure the network in the event of jamming, satellite degradation or other disruptions of the satellite links. AN/MSQ-114 can control up to 50 GMF Satellite Communications terminals. The Satellite Automatic Monitoring System (SAMS) is a computer based system used for the management of a GMF Satellite Communications Network (SCN). The network is being "upgraded" to use Spread Spectrum Multiple Access (SSMA) carriers in addition to the frequency division multiple access. The Anti-Jam (AJ) modem has been retrofitted into the AN/MSQ-114 Van #4 at Tobyhanna. Van #1 was exchanged for Van #4. The AJ modem provides the SSMA carrier capability to the network.



HISTORICAL BACKGROUND:

- Sep 78 - Production contract for four control terminals awarded to RCA Corporation.
- Sep 79 - Production contract for Satellite Automatic Monitoring Systems (SAMS) awarded to Ford Aerospace Communications Corporation (FACC).
- Feb 80 - First delivery of terminals.
- Jun 82 - Last delivery of terminals.
- Dec 82 - Follow-On Evaluation.
- Dec 86 - Contract awarded to FACC for SAMS Software Upgrade at a cost of \$5.7M.
- Jul 87 - SAMS AJ Upgrade Preliminary Implementation Review.
- Nov 87 - SAMS AJ Update Critical Implementation Review.
- Mar 89 - Van #4 modification completed.
- Apr 91 - Van #1 was exchanged for Van #4.

EVENT SCHEDULE: Decommissioning of the AN/MSQ-114 and Integration Equipment into Defense Satellite Communications System (DSCS) Operations Center is tentatively planned for FY94-95.

REQUIREMENTS DOCUMENT: TACSATCOM Qualitative Materiel Requirement (QMR), 12 Nov 71.

TYPE CLASSIFICATION: Standard approved Apr 77.

AN/MSQ-114 SATELLITE COMMUNICATIONS MONITORING AND CONTROL CENTRAL PROVIDES REALTIME COMMAND AND CONTROL FOR UP TO 50 GMF SUPER HIGH FREQUENCY SATELLITE COMMUNICATIONS TERMINALS.

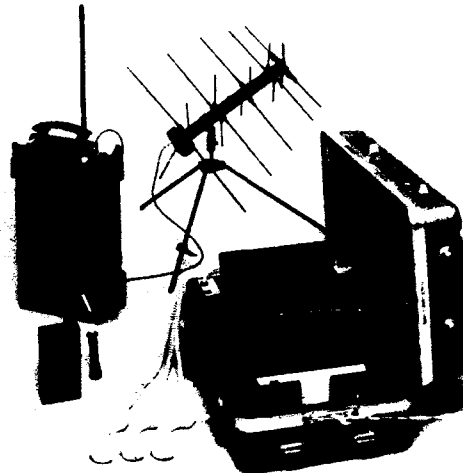
S&TCD

AN/PRT-10, COUNTERMEASURE TRANSMITTING SET

PROJECT MANAGER: Mr. Joseph C. DeFino, DSN 995-4429/2707  
COMM 908/544-4429/2707

PE & LINE #: 64250/D611

DESCRIPTION: The need as expressed in the approved CAPSTONE Required Operational Capability (ROC) for the Family of Deception Devices (FDD), Family of Electronic Deception Devices (FEDD), is to provide Army commanders (tactical and operational) with the operational capability to deceive the enemy, without the intensive use of critical combat resources, as to the location, disposition, and intention of friendly forces (systems, units, and activities). An operational capability is required that will allow the commander to provide false, misleading, or distorted indicators of various systems, units, and activities to enemy intelligence and decision making cycles without the extensive use of critical combat resources. The Communications Deception System (CDS), Nomenclature AN/PRT-10, Countermeasure Transmitting Set, is an unattended communications-electronics device that will emulate single and multiple net radio communications of Corps and Division units. This includes emitter devices covering all operational segments of the frequency spectrum and provide for voice, secure voice, continuous wave, digital, burst, and encrypted signal replication in the AM/FM, SSB and multichannel modes. With this described capability, the AN/PRT-10 provides tactical and operational commanders with organic, deception specific equipment capable of replicating key electronic communications signatures and profiles of various emitters organic to U.S. Army units, which fall within his area of responsibility.



HISTORICAL BACKGROUND:

Aug 87 - ROC approved.  
Feb 88 - Milestone I/II IPR.  
Sep 88 - FSED Contract award.  
Feb 92 - IOT&E.  
Jul 92 - Milestone III IPR.  
Dec 92 - Production Contract award.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99				
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
PRODUCTION AWARD					!																								
FAT						! — !																							
MANUALS (V&V)						! — !																							
PCA/TRAINING/MAINT DEMO						! — !																							
FAT DELIVERY						! — !																							
FUE										!																			

REQUIREMENTS DOCUMENT: O&O approved Aug 87. Capstone ROC, approved Aug 87.

TYPE CLASSIFICATION: Limited Procurement Sep 92

THE AN/PRT-10 EMULATES STANDARD U.S. ARMY COMBAT UNIT RADIO COMMUNICATIONS.

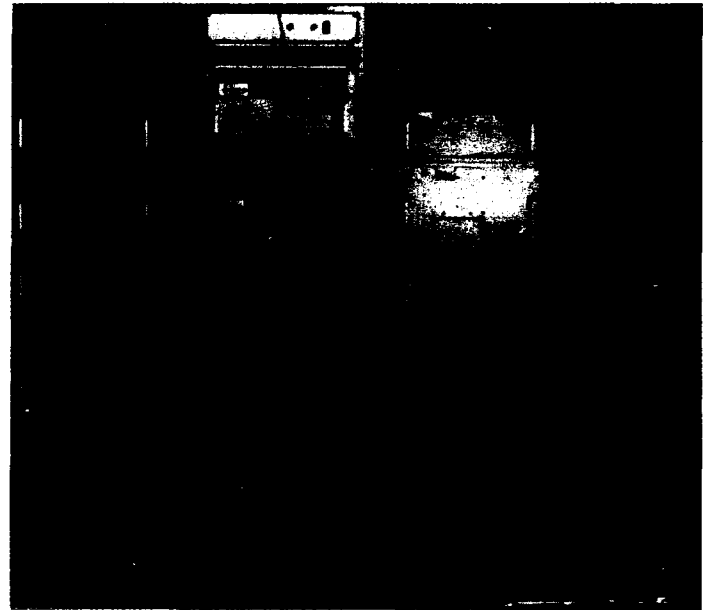
S&TCD

AN/USC-28(V), SATELLITE COMMUNICATIONS SET

PROJECT LEADER: Mr. Brian Cilli, DSN 992-2538  
COMM 908/532-2538

PE & LINE #: BA8300

DESCRIPTION: The AN/USC-28(V) (Ground) is an advanced spread spectrum modulation system which operates with Defense Satellite Communications System (DSCS) satellite communications terminals to provide jamming resistant SATCOM network control and digital user communications. AN/USC-28(V) can be configured to accommodate up to 15 user data channels. The equipment interfaces with the Digital Communications Satellite Subsystem (DCSS) in fixed terminals and is also installed in the transportable AN/GSC-49(V) terminals. A special airborne version of the AN/USC-28(V) is installed in the Super High Frequency (SHF) terminal aboard the National Emergency Airborne Command Post (NEACP), the E-4B. The equipment interoperates with the Navy shipboard OM-55 Spread Spectrum equipment. The AN/USC-28(V), by virtue of the jamming protection it affords, insures the military utility of the DSCS. The AN/USC-28(V) modem was modified to mitigate the scintillation effects which would be caused by high altitude nuclear blast. The modification has backward capability so that the AN/USC-28(V) can operate in the normal mode or in the mitigated mode.



HISTORICAL BACKGROUND:

Jun 78 - IPR/Type Classification approval.  
Sep 78 - First Production contract award.  
Nov 81 - First Unit Equipped.  
Apr 82 - Initial Operational Capability.  
Feb 87 - Mitigation modification contract award.  
Nov 90 - Transitioned to Level II Management.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
PRODUCTION CONTRACT													!															
MITIGATION CONFERENCING MODIFICATION					!								!															
COMPUTER REPLACEMENT MODIFICATION													!												!			

REQUIREMENTS DOCUMENT: DSCS Program Plan as approved by Assistant Secretary of Defense.

TYPE CLASSIFICATION: Standard approved Jun 78 .

AN/USC-28(V) PROVIDES AN ELECTRONIC COUNTER COUNTER MEASURE (ECCM) CAPABILITY FOR STRATEGIC SATCOM SYSTEMS.

PROJECT OFFICER: Mr. Nick Karalekas, DSN 995-4784  
COMM 908/544-4784

**DESCRIPTION:** The TFOCA is used as a component of ground tactical fiber optic communications systems. These cable assemblies and ancillary items can be effectively utilized in deploying ground tactical field communications systems which are lightweight, small in size, and support dispersed operations due to extended non-repeatable transmission lengths. A completed cable assembly on a standard RC-453/G reel consists of a specified length (up to 1 kilometer) of 5 mm outer diameter cable containing two tightly-buffered, radiation hard, 50/125 micrometers multimode fibers terminated with duplex hermaphroditic biconic connectors. The connector is rugged, field installable, waterproof, and resistant to the stringent environment typical of tactical military applications. The cable assembly is rated and tested for operation at temperatures ranging from -55°C to +85°C. Cable assemblies are made in several lengths to meet various deployment configurations. They are easy to install, use no adhesives, and have excellent stability with temperature variations. The TFOCA has been designated as the Tactical Standard by the Joint Commanders Group for Communications-Electronics. Companion connector components were developed as part of the ancillary items. Cable assembly adaptors and repair kits are available as are cables and connectors for shelter module installations.

- Aug 84 - TFOCA R&D contract awarded to AT&T.
- Jan 86 - TFOCA adopted by DOD as the standard for all ground tactical applications.
- Mar 89 - Production contract awarded to AT&T by PM, MSCS.
- May 90 - First Article test successfully completed.
- Oct 90 - Proposal for requirements contract received.
- Mar 92 - TFOCA requirements contract award to AT&T Technologies.

Future events are dependent upon customer orders.

TYPE CLASSIFICATION: Standard approved 1989.

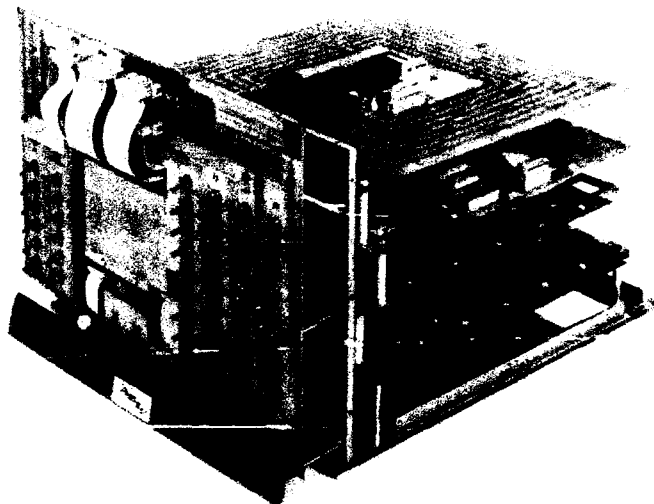
S&TCD

ADVANCED CONCEPTS AND TECHNOLOGY FREQUENCY AGILE  
SOLID-STATE TUNER (ACTFAST)

PROJECT OFFICER: Mr. Wilbur Guertin, DSN 992-0464  
COMM 908/532-0464

PE & LINE #: 62782 AH92/D246

DESCRIPTION: ACTFAST is a frequency-hopping antenna coupler used to match HF power amplifiers into whip, shorted loop, and long-wire antennas for ground and aircraft applications. Hopping can occur over the entire 2-30 megahertz high frequency band at full power 400 watt (USA) and 2 kilowatt (USAF), contrasted with present day hoppers restricted to a narrow frequency range and long tuning times. Innovative cooling techniques and solid-state switches eliminate the need for slow and unreliable electromechanical devices to assure high reliability, fast speed and quiet operation, all contributing to maximum security against hostile jammers and increased transmission efficiency. Ability to tune in 50 microseconds enhances interoperability with Automatic Link Establishment (ALE) systems mandated by MIL-STD-188-141A, and at hopping rates up to 10,000 hops per second, greatly increases the ability to evade jammers. Development efforts are being considered for immediate insertion into the Improved High Frequency Radio (IHFR) Program as a form, fit and function replacement for the Short Term Anti-Jam (STAJ) AN/GRC-193 radio antenna coupler, for use by USAF on C-130 aircraft, and for anticipated insertion into future Product Improvements of the IHFR and the Multiband/Multimode Radio Program. Additionally, the coupler will be considered for its ability to perform as a high power jammer component.



HISTORICAL BACKGROUND:

Nov 88 - The ACTFAST concept was originally submitted in response to FSHPAC solicitation but was not accepted.  
Nov 89 - The ACTFAST concept was resubmitted in response to Broad Agency Announcement from Advanced Concepts and Technology (ACT) Committee (LABCOM).  
May 90 - Accepted by ACT for FY91 funding; Additional funds MIPRs from USAF for joint participation and earlier start.  
Sep 90 - Contract awarded to AEL.  
Jan 92 - Contract extended to produce deliverable prototype.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
DESIGN PLAN/CDR	TBD																											
CONTRACT COMPLETION									!																			

REQUIREMENTS DOCUMENT: IHFR ROC.

TYPE CLASSIFICATION:

ACTFAST WILL DEVELOP ECM AND ECOM EQUIPMENT EMPLOYING VERY FAST HOPPING RATES TO ENSURE EFFECTIVE ANTI-JAM COMMUNICATIONS FOR ARMY AND AIR FORCE APPLICATIONS. REDUCE LINK ESTABLISHMENT TIMES IN ALE AND INCREASE DATA RELIABILITY WITHOUT DECREASING THROUGHPUT, AND CONVERSELY, TO INCREASE THE EFFECTIVENESS OF JAMMING SYSTEMS.

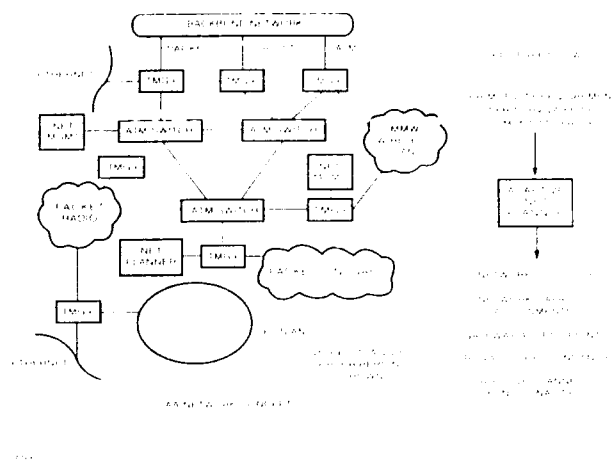
S&TCD/ACTFAST/10-1

ADAPTIVE NETWORK PLANNER

PROJECT MANAGER: Mr. Charles J. Graff, DSN 995-3264  
COMM 908/544-3264

PE & LINE #:

**DESCRIPTION:** The Adaptive Network Planner is a near real time planning and analysis tool for the Localized Access Area (LAA). The LAA consists of Digital Data Networks including the Fiber Optic Local Area Network (FOLAN), the Packet Radio, Ethernet LANS, Packet Singars, and MMW Wireless LANS. While the preceding networks are part of the SAS-TD, the LAA will be expanded to include ATM LANS and ATM technology over all transmission media. The tactical multinet gateway will be used to interconnect all networks. The Adaptive Network Planner will plan topologies, capacity allocation, gateway placement, and gateway access. The Planner will interact with ISYSCON, LAA Network Management in its decision making.

HISTORICAL BACKGROUND:

Apr 92 - Initiate Functional Spec, Market Survey, Performance Analysis.  
Jun 93 - Functional Spec, Market Survey, Performance Analysis completed.  
Jan 94 - Contract award for Prototype Development.  
Jun 95 - Prototype Complete.  
Jul 95 - LAB Demo.  
Sep 95 - Field Demo with SAS-TD.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
INITIATE FUNCTIONAL SPEC, ET AL																												
COMPLETE FUNCTIONAL SPEC	!																											
INITIATE DEVELOPMENT					!																							
COMPLETE DEVELOPMENT									!																			
DEMO IN LAB									!																			
DEMO WITH SAS-TD									!																			

REQUIREMENTS DOCUMENT: Associated with SAS-TD.

TYPE CLASSIFICATION:

THE ADAPTIVE NETWORK PLANNING TOOL IS A REAL TIME PLANNER PROVIDING TOPOLOGIES, CAPACITY ALLOCATION, GATEWAY PLACEMENT, GATEWAY ACCESS FOR NETWORKS OF THE LAA.



# S&TCD

## COMMERCIAL COMMUNICATIONS TECHNOLOGY TESTBED (C2T2)

PROJECT MANAGER: Mr. John Bojarski, DSN 995-4191  
COMM 908/544-4191

PRODUCT MANAGER: Mr. Jay Staba, DSN 995-3988  
COMM 908/544-3988

### PE & LINE #:

DESCRIPTION: C2T2 is a distributed test bed for commercial communications technology such as PCS. The purpose of the program is to test commercial products to determine suitability for military use. The initial focus is on the requirements of the dismounted soldier. Testing will include: modeling and simulation, bench testing and user testing. The program is divided into two phases. The first phase concerns the actual design of the test bed. The test and evaluation of commercial equipment is done in the second phase. This program is sponsored by ARRA.

### HISTORICAL BACKGROUND:

Feb 93 - C2T2 Planning Meeting.  
May 93 - SRT Contract awarded.  
Jun 93 - Mitre contract awarded.  
Jun 93 - C2T2 Kickoff.

### EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1				1				1				1				1				1			
PHASE 0																												
PHASE IA																												
PHASE IB																												

### REQUIREMENTS DOCUMENT:

### TYPE CLASSIFICATION:

A DISTRIBUTION TEST BED FOR COMMERCIAL COMM TECHNOLOGY WITH FOCUS ON THE DISMOUNTED SOLDIER.

S&TCO

DA SATELLITE COMMUNICATIONS SYSTEMS ENG

PROJECT LEADER: Mr. Paul Chernek, DSN 992-6286  
COMM 908/532-6286

PE & LINE #: P20 353142

DESCRIPTION: HQ DA and AMC have directed that CECOM Space and Terrestrial Communications Directorate (S&TCD) perform system engineering tasks in support of developing near and far term solutions to the Satellite Communications (SATCOM) needs of the Army.

HISTORICAL BACKGROUND:

Jan 91 - HQ DA identified a need for DA SATCOM Systems Engineers to HQ AMC.  
Feb 91 - VDISC4 Taskings to C2S2 (now S&TCD) to define EHF system for Army.  
Mar 91 - C2S2 briefed VDISC4 on findings; VDISC4 directed to go ahead.  
May 91 - Tasking finalized by Memo from AMC to CECOM.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
SHF ANALYSIS/DEFINITION								!																				
EHF CCB & MIL STD WGS									!																			
MILSTAR REQTS FLOWDOWN										!																		
AFSMC COMM SATELLITE ARCH STUDY											!																	
POLAR ADJUNCT												!																
COMMERCIAL SATCOM INITIATIVES													!															
LAM SUPPORT															!													
INT'L WORKING GROUPS/NATO STANAG																	!											

REQUIREMENTS DOCUMENT:

TYPE CLASSIFICATION:

CECOM S&TCD TO PERFORM SYSTEM ENGINEERING TASKS IN SUPPORT OF DEVELOPING NEAR AND FAR TERM SOLUTIONS TO THE SATCOM NEEDS OF THE ARMY.

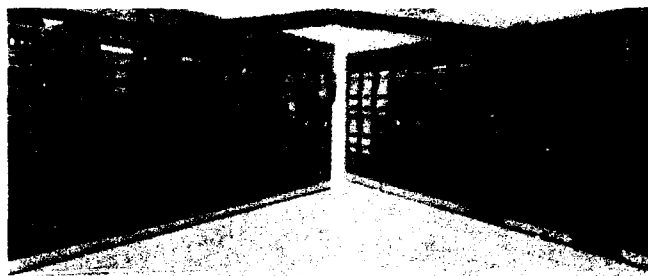
## S&TCD

### DIGITAL COMMUNICATIONS SATELLITE SUBSYSTEM (DCSS)

PROJECT LEADER: Ms. Cathy Young, DSN 992-3116  
COMM 908/532-3116

PE & LINE #: BB8501

DESCRIPTION: The DCSS encompasses the modulation, multiplex, coding and processing equipment necessary to assemble various types of user data into a digital form suitable for transmission over a Satellite Link, in both the protected and unprotected modes. The protected mode employs spread spectrum multiple access techniques utilizing the AN/USC-28 Modem. The unprotected mode employs frequency division multiple access techniques utilizing the OM-73 Modem. In the unprotected mode, the DCSS can feed the AN/FSC-78, AN/GSC-52, or AN/GSC-39 Terminal with up to 90 megabits of user data. DCSS is deployed as part of the Defense Satellite Communications System (DSCS) and essentially provides a unique wide band digital transmission capability. DCSS is required at each Earth Terminal Complex with the DSCS Network in either a building or a van configuration, and its modular design permits unique configurations to meet each DSCS site's specific communication requirement.



### HISTORICAL BACKGROUND:

- 1977 - U.S. Army Satellite Communication agency (USASATCOMA), as the Executive Agent for the defense Communication Agency, ships the first DCSS consisting of 15 unique racks and equipment to Sunnyvale, (Onizuka), CA.
- 1985 - DCSS becomes all digital.
- 1989 - USASATCOMA reorganized into PM SATCOM and Space Systems Directorate (SSD).
- 1989 - DCSS Program Management transitions to Space Systems Directorate.
- 1994 - Total investment to date: \$334M.

### EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
PRODUCTION DELIVERIES																												

REQUIREMENTS DOCUMENT: DISA DSCS FY93-98 Program Plan.

TYPE CLASSIFICATION: N/A

DCSS PROVIDES DIGITAL EQUIPMENT CAPABILITIES FOR DSCS TERMINAL SITES.

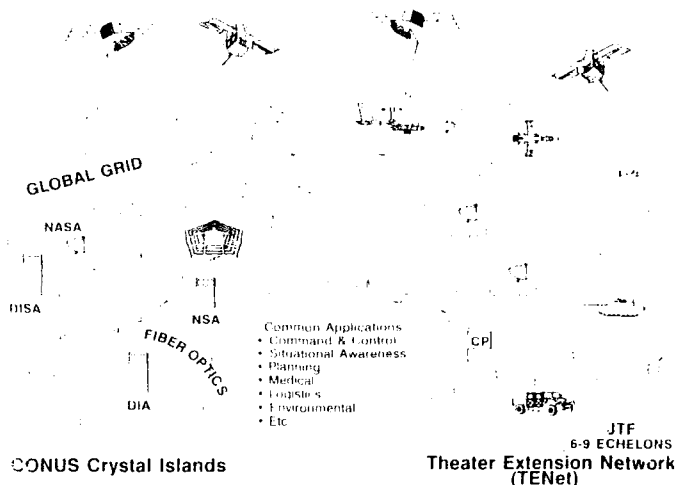
GLOBAL GRID COMMUNICATIONS

PROJECT MANAGER: Dr. Howard Wichansky, DSN 995-4713  
COMM 908/544-4713

PE & LINE #: 63006/D257

**DESCRIPTION:** Global Grid is an advanced development program whose goal is to provide access for all tactical users to the commercial Asynchronous Transfer Mode (ATM) communications infrastructure being developed and installed by the communications industry. Interfaces will be designed to this "Global Grid" that will enable the military to use the civilian system. The Global Grid program will demonstrate a secure, robust, seamless, digital, multimedia, information transport capability for the Army tactical user that is compliant with and exploits emerging commercial standards and the Global Grid Architecture. All echelons will be provided ATM access.

## DDR&amp;E Global Surveillance &amp; Communications (Thrust 1)

HISTORICAL BACKGROUND:

- Mar 93 - Approved Global Grid Master Plan with Army input.
- Apr 93 - Funded and supported MITRE ARC-21 Study.
- May 93 - Developed Implementation Plan and defined S&TCD resource requirement/staffing.
- Jun 93 - Met with Navy and Air Force to develop joint phased capabilities for TENET.
- Jun 93 - Received ASTWG approval on new Army ATD.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
JOINT ATM TESTBED					!																							
ATM INTERFACE TO MSE																												
SINGARS DATA COMM WITH MSE																												
SATCOM RANGE EXT FOR ATM																												
ATM INTERFACE TO TACTICAL LANS																												
DEMO WIDEBAND INTERFACE																												
WIDEBAND MULTIMEDIA SPEAKEASY																												
DEMO EXIT CRITERIA																												

REQUIREMENTS DOCUMENT: N/A

TYPE CLASSIFICATION: N/A

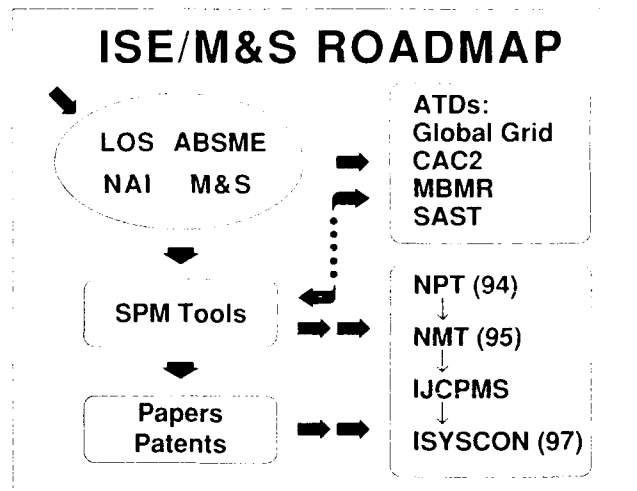
ATD TO DEMONSTRATE CAPABILITY FOR SECURE, ROBUST, SEAMLESS, DIGITAL, MULTIMEDIA, INFORMATION TRANSPORT CAPABILITY FOR ARMY TACTICAL USER.

## IMPROVED SPECTRUM EFFICIENCY MODELING &amp; SIMULATION

PROJECT MANAGER: Mr. Ken Brockel, DSN 995-2334  
COMM 908/544-2334

PE & LINE #: H92CONS/H92LINMS

**DESCRIPTION:** ISEMS is focused on modeling of communications system capacity and dynamic battlefield environments that are required to support the future global deployment of new communications technology. ISEMS is developing concepts and techniques necessary to reduce run times for large simulations required to support communications systems performance models. Program is developing a number of simulation optimization techniques that are being used to improve the fidelity and speed of modeling tools. The program is also supporting ongoing efforts in the radio propagation and electromagnetic environment fields. The concept of propagation reliability modeling is being integrated into communications systems performance models that reflect the actual environment that communications systems must operate. The program is focused on three major technical barriers that include (1) real time description of the environment for tactical communications systems, (2) Statistical description of the environment for the high capacity digital radio required for ATM switch connectivity, and (3) Improved modeling techniques required for modeling large communications systems. The ability to forecast total communications system performance in a world wide tactical environment is a key technical barrier being addressed by ISEMS. Research must be performed on real-time description, as distinct from statistical analysis, of the environment phenomena for application to dynamic network and performance management models. Research must be performed to describe the impact of amplitude and phase dispersion on high capacity tactical digital radio needed for the battlefield of the future. Modeling processes must take advantage of methods such as TAGUCHI design of experiments to simplify simulations while maintaining high fidelity. In addition to the benefits this program will bring to the ATD programs it is also providing concepts and ideas for products that are being quick transitioned to soldiers. The communications optimization algorithms and propagation reliability models developed on this line are now being fielded as a P/O the MSE network planning terminal. Much of the battlefield spectrum product line going into the ISYSCOM program evolved from this program. The bottom line is that this program is providing direct near term benefit to our most important customer the soldier.



## HISTORICAL BACKGROUND:

- FY91/93 - Completed LOS propagation models (UHF thru SHF COMM Systems).
- FY 92 - Developed Propagation climate factor process with worldwide data base.
- FY92/93 - Developed net deployment & optimization algorithms & improved EW algorithms.
- FY93 - Developed approach for 24hr net management system for area communications.
- FY93 - Developed E3 Data Base.
- FY93 - Complete several concept & studies to improve efficient use of Spectrum.

## EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ENHANCED PROP/RELIABIL MODELS (EHF/UHF/VHF)																												
PROP DISPERSION MODEL																												
24HR NETWORK PEP <sup>c</sup> , MANAGEMENT SYS																												
E3 MODEL UPGRADES																												
TAGUCHI PROCESS																												
JOINT COMBINED FREQ ALLOCATION & ASSIGN MODELS																												
COMPARE/CONTRAST SYNTH FOR OBJECT ORIENTATED																												
MODEL/SIM FNG DEV & MODULER DESIGN																												

REQUIREMENTS DOCUMENT: Several (NMT/NPT/IJCPMS/ISYSCON)

TYPE CLASSIFICATION: N/A

ISEMS IS FOCUSED ON THE MODELING OF COMMUNICATIONS SYSTEMS CAPACITY AND DYNAMIC BATTLEFIELD ENVIRONMENTS REQUIREMENTS TO SUPPORT FUTURE GOBAL DEPLOYMENT OF NEW COMM TECHNOLOGIES.

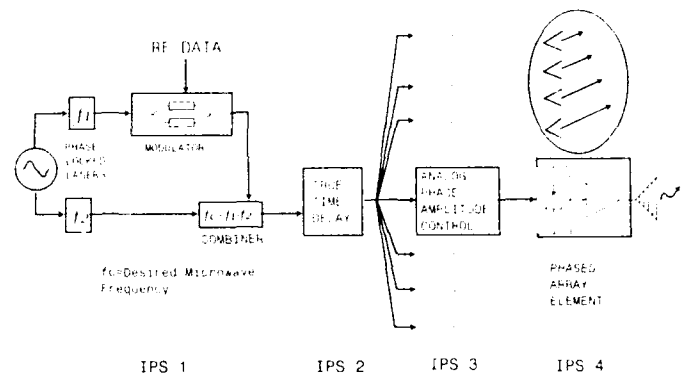
## S&TCD

### INTEGRATED PHOTONIC SUBSYSTEMS

PROJECT MANAGER: Mr. James G. Wright, DSN 995-2819  
COMM/908-544-2819

PE & LINE #: 62782.AH92

DESCRIPTION: This effort will develop Integrated Photonic Subsystems (IPS) for beamforming, control and signal distribution for phased array antennas which will be a required part of future tactical communication and radar systems. A frequency independent approach will allow use in both SATCOM (20/44 GHz) and command post comm-on-the-move (54-58 GHz) applications.



INTEGRATED PHOTONIC SUBSYSTEMS

### HISTORICAL BACKGROUND:

Jun 93 - Revised STO briefed to battle lab representatives.

### EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
PRELIM PHOTONICS DEVELOPMENT																												
FIBER OPTIC RF LINKS DEVELOPMENT																												
TRANSITION TO MSARS																												
TRANSITION TO WIRELESS CP																												

REQUIREMENTS DOCUMENT: STO III.D.9 Jun 93.

TYPE CLASSIFICATION: N/A Effort will result in subsystem to be incorporated into Comm. Systems.

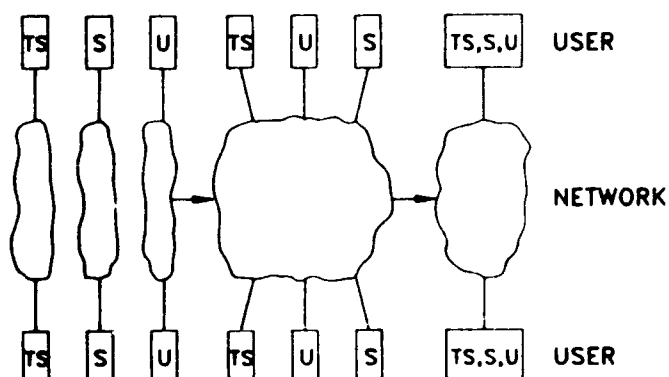
INTEGRATED PHOTONIC SUBSYSTEMS WILL CONTROL THE BEAMFORMING NETWORKS OF THE NEXT GENERATION OF PHASED ARRAY ANTENNAS.

NETWORK SECURITY

PROJECT OFFICER: Mr. Robert Cicero, DSN 994-2004  
COMM 908/544-2004

PE & LINE #: 39800 D21A

DESCRIPTION: The long term objective of network security is to secure all voice and data within every Army network system that communicates and/or processes any information of intelligence value. The goal is to develop small, user friendly low power equipment tailored to meet the Army system requirements in a cost effective manner. This effort will apply NSA generic hardware modules and software cryptographic algorithms by embedding them into host equipment. This will meet unique Army requirements to include the development of techniques to increase the physical protection of COMSEC equipment and keying material and will result in Army communication systems that are robust, automated and secure. This will be accomplished through the use of black gateways and investigation of technologies to assure authentication and access control for multi-level secure networks and multi-user terminals. Secure gateways will permit the soldier in the field to cross communication boundaries without the need to decrypt information within a red gateway.

**SECURE NETWORK TECHNOLOGY**HISTORIC BACKGROUND:

Jan 1991 - Award COMSEC System Architecture Study; Funds MIPR to NSA for CANEWARE Models.  
Apr 1991 - Award study on security effect on tactical protocol.  
Aug 1993 - Award contract for TEED (contract protested effort suspended).

TECHNICAL:

Army Regulations require securing all classified information. Modules developed for the Commercial CONSEC Endorsement Products (CCEP) program have been incorporated within network encryption equipment. Investigation of NSA's developed software for embedding into host equipment. Investigation of techniques used in BLACKER and CANEWARE COMSEC systems. Army's needs are being defined.

PROGRAMMATIC:

To date, internal effort has been expended for the above work. Contractual effort is programmed for FY93 time frame.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
AWARD OF CONTRACTS FOR EXPLORATORY DEVELOPMENT MODULE							!																					
FIELD TESTING OF EXPLORATORY DEVELOPMENT MODULE																!												
MODULE WRAPAROUND																				!								

REQUIREMENTS DOCUMENT: The Signal Center is in the process of generating a requirements document.

TYPE CLASSIFICATION:

NETWORK SECURITY'S GOAL IS TO SECURE ALL NETWORKS WITHIN EVERY ARMY WEAPON SYSTEM THAT COMMUNICATES AND/OR PROCESSES ANY INFORMATION OF INTELLIGENCE VALUE.

# SURVIVABLE ADAPTIVE SYSTEMS-ADVANCED TECHNOLOGY DEMONSTRATION (SAS-ATD)

**PROJECT MANAGER:** Mr. Paul Sass, DSN 995-2419  
COMM 908/544-2419

**PE & LINE #:** 63006 D247

**DESCRIPTION:** The SAS-ATD objectives are the development and integration of new technological capabilities in communications and distributed processing and the demonstration of these capabilities to the user Community. It will also develop network systems in support of Command and Control (C2) on-the-move (OTM). The program is structured to facilitate the transition of emerging communication and distributed processing technologies into the Army Technical Command and Control System (ATCCS) Objective System. The program will also support the communications requirements of other ATDs. The local access portion of the ATCCS Objective System will provide the networked battlefield computers to support all five of the Battlefield Functional Areas (BFAs). It will also provide the communications interconnectivity to support real-time command and control by use of integrated data, voice, images, video, and facsimile facilities, both among the elements of a dispersed command post through interconnection into a wide area network. The CECOM Space & Terrestrial Communications Directorate (S&TCD) manages a set of advanced technology programs that are directly related to the requirements of the ATCCS Objective System. The key components of these technology programs include Wireless Network Access to provide C2OTM, Fiber Optic Tactical Lan (FOTLAN) with Fiber Distributed Data Interface (FDDI) capability to handle 100 mbps of integrated voice, data, and video in Corps and above, Tactical Multinet Gateway to provide survivable communications through use of alternate communications systems (e.g., CNR, MSE, FOTLAN), Automated Network Management for ease of network setup, and Network Security. Together these technologies will provide survivable and secure communications in Corps (and above), Division, and Brigade echelons.

## HISTORICAL BACKGROUND:

Mar 92 - Revised Technical Development Plan approved by DA.  
Nov 92-Dec 93 - Phase 1 Demo successfully completed at Ft. Lewis, WA and Ft. Gordon STDN-3.  
Dec 93 - Phase 1 Exit Criteria successfully accomplished.  
Mar 93 - Phase 1 "Lessons Learned" incorporated into Phase 2 of SAS development.

## EVENT SCHEDULE:

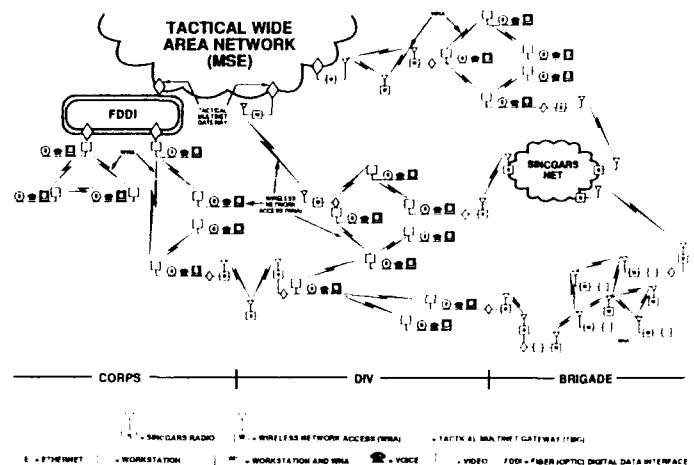
FISCAL YEAR	93	94	95	96	97	98	99
QTR	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
NARROW BANDWIDTH WIRELESS LAN: LAB DEMO	!						
SECURITY: LAB DEMO	!						
FIBER OPTIC TACTICAL LAN (FOTLAN)	!						
WIDE BANDWIDTH WIRELESS LAN	!						
NETWORK MGMT and GATEWAYS	!	!					

**REQUIREMENTS DOCUMENT:** The SAS-ATD supports Thrust Areas 2 and 5, ATCCS, Digitization of the Battlefield and Science and Technology Objective (STO) #II.G.04 for C3 entitled Survivable Adaptive Systems ATD.

## TYPE CLASSIFICATION:

SAS-ATD WILL DEMONSTRATE A SET OF ADVANCED TECHNOLOGIES IN SUPPORT OF ATCCS WITH A TRANSITION OPPORTUNITY IN 1Q96.

## **SURVIVABLE ADAPTIVE SYSTEMS ATD DEPLOYMENT CONCEPT**



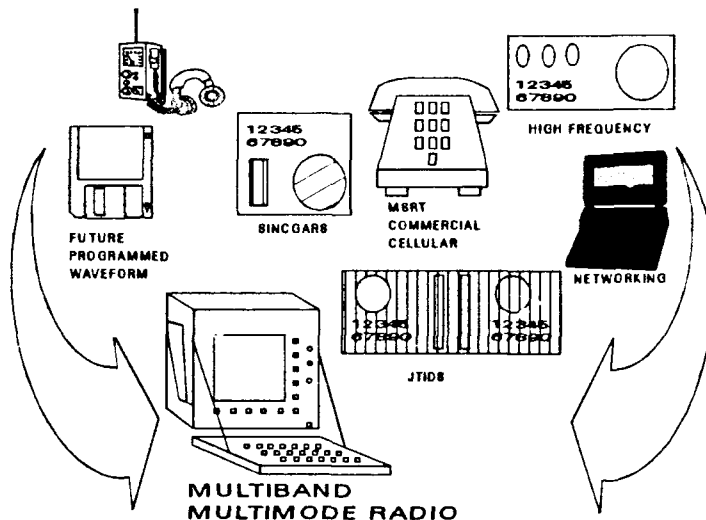


MULTIBAND MULTIMODE RADIO (SPEAKEASY)

PROJECT ENGINEER: Mr. Adam Gerner, DSN 995-3953  
COMM 908/544-3953

PE & LINE #: 1L162782.AH92

**DESCRIPTION:** The Multiband Multimode Radio (MBMMR) program is a multi phased program to develop a radio system which was mostly software reprogrammable. During the first phase of the program, which started in Oct of 90 and is scheduled to complete in Dec of 93, focus was on the development of a DSP, coding waveforms for a demonstration of the programmable modular radio system. From lessons learned during the first phase of the program the radio of the near future will be partially programmable, will utilize dedicated waveform unique modules where necessary, will operate in multiple bands and function in multiple modes. The combination of capabilities realized will be dependent on the size, speed, power consumption and best combination of modes and waveforms that minimize hardware, and meet user requirements.

**MULTIBAND MULTIMODE RADIO**HISTORICAL BACKGROUND:

Sep 90 - Contract award.  
Jun 92 - Contract restructured.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
QIR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
PHASE I																												
PHASE I HARDWARE																												
UPGRADED PHASE I HARDWARE																												
PHASE II PROGRAM - PEO TRANSITION																												
EDM PROGRAM FOR LRIP MODEL																												

REQUIREMENTS DOCUMENT: Army Signal School, Draft.

TYPE CLASSIFICATION: Speakeasy is a radio that operates in multiple bands and performs multiple modes.

THE MBMMR PROGRAM IS A MULTI-PHASED PROGRAM TO DEVELOP A RADIO SYSTEM WHICH WAS MOSTLY SOFTWARE REPROGRAMMABLE.

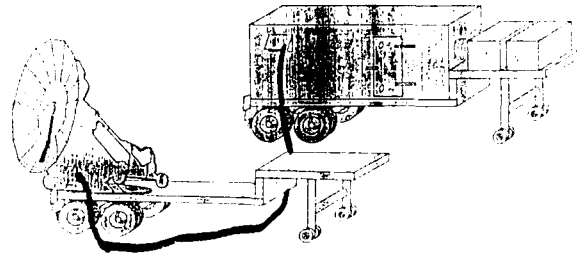
TRI-BAND SATCOM SUBSYSTEM (TSS)

## TRI-BAND SATCOM SUBSYSTEM

PROJECT MANAGER: Mr. Fred Kobylartz, DSN 992-1550  
COMM 908/532-1550

PE & LINE #:

DESCRIPTION: TSS is a multi-band SATCOM Terminal designed to be used in the INTEL Processing & Dissemination System Ver II (IPDSII). It is a Full duplex, High Receiver Data Rate subsystem which is transportable and fully redundant. The TSS includes a nominal 6.1 meter antenna with LOTS/NOI electronics. The TSS can operate over DSCS and NATO Military SATCOM Networks as well as INTELSAT commercial C & Ko band SATCOM Networks.

HISTORICAL BACKGROUND:

May 91 - MOA between CECOM S&TCD and customer.  
May 92 - SPEC and SOW developed.  
Aug 93 - RFP released.  
3QFY94 - Contract award.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1				1				1				1				1				1			
SOURCE SELECTION					!	!																						
CONTRACT AWARD							!	!																				
PIR								!																				
LIR									!																			
FAT										!	!																	
CERTIFICATION												!	!															
DELIVERY																												

REQUIREMENTS DOCUMENT: N/A

TYPE CLASSIFICATION: N/A

TSS IS A MULTI-BAND SATCOM TERMINAL BUILT TO PROVIDE ASSURED ACCESS TO SUPPORT INTEL DISSEMINATION.

# S&TCD

## VEHICULAR INTERCOMMUNICATIONS SYSTEM (VIS)

PROJECT MANAGER: Mr. Christopher Wantuck, DSN 995-2421  
COMM 908/544-2421

PE & LINE #: 37/B71100

**DESCRIPTION:** The VIS is an intercom and radio access communications system, primarily for crew members of armored track vehicles. It consists of a Master Control Station (MCS), Full Function Crew Stations (FFCS), Monitor Only Stations (MOS), Radio Interface Unit (RIU), Active Noise Reduction (ANR) headsets, and power signal cables. The MCS allows for 1) programming of radios to crew members; 2) radio listening silence; 3) connection to field phone or other vehicle; and, 4) connection to two combat radios. An FFCS provides volume adjustment and radio selection whereas an MOS only provides volume adjustment. The RIU is used for applications where three or four radio capability is required. The ANR headsets are provided in a helmet liner with a noise canceling microphone. The ANR earcups will phase cancel noise that penetrates the earcups seal, thereby providing improved sound reduction. Initial VIS fielding will be front line vehicles (force package I) such as Abrams tanks (M1A1/M1A2), Bradley Fighting Vehicles (M2, M3), M577's, M109A6 Paladins, and Standardized Integrated Command Post System (SICPS). Other vehicles will be considered as their requirements deem necessary. VIS is procured as a Non-Developmental Item.



### HISTORICAL BACKGROUND:

Sep 86 - HASC/SASC zero VIS funding.  
Mar 87 - Committee Reports: Vehicles fund for VIS.  
Aug 88 - VIS transferred from PFO COMM to CECOM.  
Oct 88 - \$10M OPA-2 appropriated for VIS.  
Jan 91 - SPR decision - procure VIS.  
Sep 92 - Contract award.

### EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
INTEGRATION/ENGINEERING		!	!	!	!																							
FIRST ARTICLE BUILD-UP					!	!																						
FIRST ARTICLE TEST						!	!																					
USER TEST							!	!																				
FIRST ARTICLE DELIVERIES								!	!																			
EXERCISE FIRST OPTION									!																			
BEGIN DELIVERIES										!																		

**REQUIREMENTS DOCUMENT:** Required Operational Capability, Jul 86.

**TYPE CLASSIFICATION:** Generic approved Sep 91; Standard scheduled for Nov 94.

VIS IS AN INTERCOM AND RADIO ACCESS COMMUNICATIONS FOR CREW MEMBERS OF ARMORED TRACK AND COMMAND POST VEHICLES.

SOF

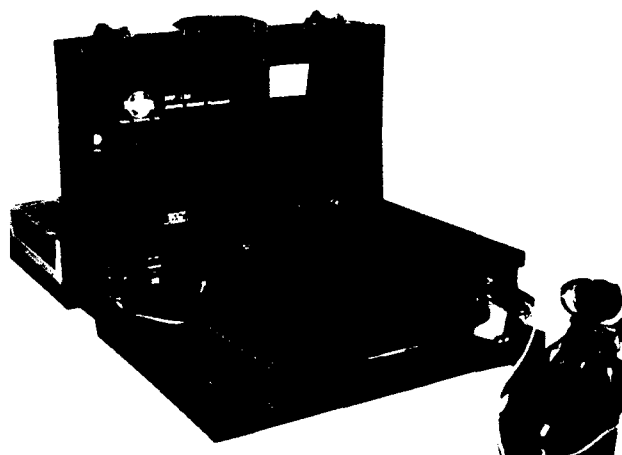
SOF

AN/GRC-233, SPECIAL OPERATIONS COMMUNICATIONS ASSEMBLAGE  
(SOCA V.1)

PROJECT MANAGER: Mr. Jerry Mohr, DSN 995-2391  
COMM 908/544-2391

PE & LINE #: D474

DESCRIPTION: The SOCA V.1 is a secure voice, data and compressed video communications system. The Digital Message Processor (DMP-122) provides two capabilities to generate, display, store, transmit and receive data via High Frequency (HF) and Ultra High Frequency (UHF) communications systems. The HF Communications Suite (HF-5000) provides the system's HF transmit and receive functions. The UHF Communications Suite (LST-5C) provides the capability to transmit and receive information via a SATCOM link.



HISTORICAL BACKGROUND:

Feb 87 - DA directed Limited Procurement-Urgent.  
Sep 89 - Contract award.  
2QFY91 - Emergency release of two SOCA's to support Desert Shield.  
Sep 92 - Materiel Release.  
Sep 93 - Training Complete.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
DELIVERY																												
CM & SS																												

REQUIREMENTS DOCUMENT: Operational Needs Statement, Nov 88.

TYPE CLASSIFICATION: Limited Procurement-Urgent approved Feb 87.

AN/GRC-233 CONSISTS OF TRANSIT CASE DEPLOYABLE COMMUNICATIONS ASSEMBLAGES TO PROVIDE NON-SI INTELLIGENCE, C2 ADMINISTRATION, AND LOGISTICS TRAFFIC TO THE SPECIAL OPERATIONS FORCES (SOF) COMMUNITY.

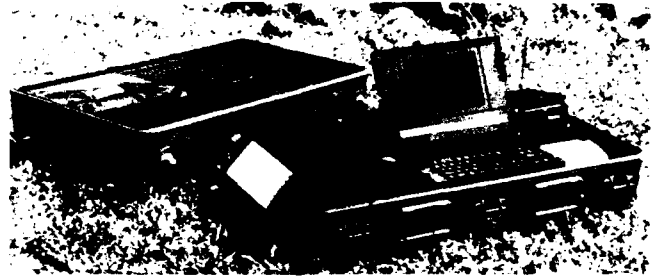
SOF

AN/GSC-59A, LIGHTWEIGHT DEPLOYABLE COMMUNICATIONS (LDC)

PROJECT MANAGER: Mr. Edmund Erskine, DSN 995-2246  
COMM 908/544-2246

PE & LINE #: D474

DESCRIPTION: The LDC is a suitable deployable digital communications system modular in design. It provides message processing and staff automation support above team level, using organic transmission equipment. The LDC configuration consists of an intelligent computer workstation, radio and wireline communications interface, and a letter/graphics printer.



HISTORICAL BACKGROUND:

Mar 89 - Limited Procurement-Urgent authorization.  
1QFY91 - Limited Procurement-Urgent extension granted; Production contract award.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
USER TEST																												
FIRST UNIT EQUIPPED																												
MATERIEL RELEASE																												

REQUIREMENTS DOCUMENT: Limited Procurement-Urgent, 22 Mar 89.

TYPE CLASSIFICATION: Limited Procurement-Urgent, 22 Mar 89; extended 1QFY91 until withdrawal or obsolescence.

LDC IS A RUGGEDIZED, FIELD GRADE PORTABLE COMMUNICATIONS SYSTEM FOR USE BY THE SPECIAL OPERATIONS FORCES IN TACTICAL GROUND ACTION

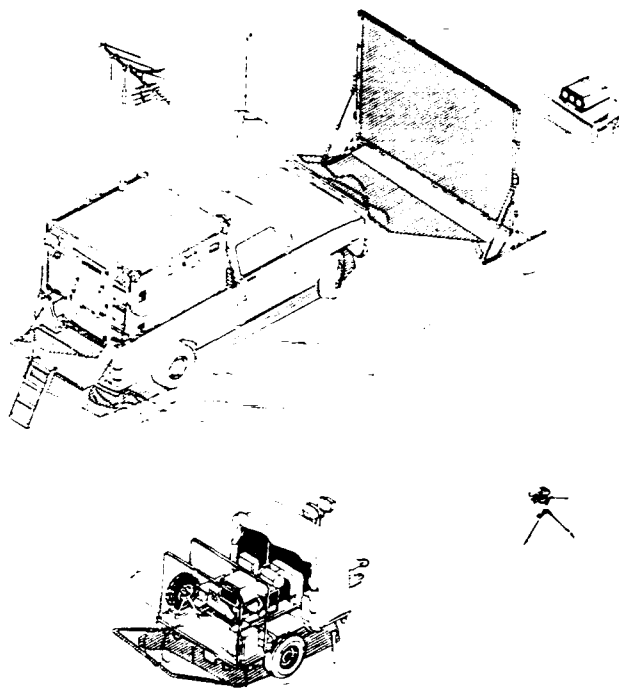
SOF

AN/MSQ-85B, MOBILE AUDIO-VISUAL SYSTEM

PROJECT MANAGER: Mr. William Krajenski, DSN 992-0014  
COMM 90R/532-0014

PE & LINE #: D476

DESCRIPTION: The AN/MSQ-85B is a mobile visual dissemination and collection system housed in an S-250 Shelter, and mounted on an M-1028 Commercial Utility Cargo Vehicle (CUCV). A second M-1008 CUCV is used to tow the trailer mounted generator, and provide cargo space for mission equipment that cannot be transported in the shelter. Primary power source is a PU-751/M 5 kilowatt trailer mounted diesel generator. It can also be operated on 120/240 Volts AC, single phase 60 hertz commercial power. The system is used to provide audio-visual programs for presentation to audiences in remote areas. The system can receive television, and AM/FM/SW radio programs for editing, storage, and local presentation by projection television, still picture and loudspeaker. The audio-visual mission equipment is Non-Developmental Item (NDI) and Commercial Off-The-Shelf (COTS), and includes: television monitors and receivers, video and audio cassette recorders, video camera and projector, 35mm camera and film processor, 35mm projector, AN/FM/SW receiver, and the AN/PIH-1 Public Address Set.



HISTORICAL BACKGROUND:

3QFY90 - Instructor Key Personnel (IKP) training.  
Aug-Nov 90 - Emergency Materiel Release of four systems for Desert Storm.  
Aug 92 - CECOM conditional Materiel Release.  
Sep 92-Sep 93 - Fielded 36 systems.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
MATERIEL RELEASE																												
PRODUCTION																												
FIRST UNIT EQUIPPED (FUE)																												

REQUIREMENTS DOCUMENT: Limited Procurement-Urgent, May 90.

TYPE CLASSIFICATION: Limited Procurement-Urgent, approved May 90.

AN/MSQ-85B IS A MOBILE AUDIO-VISUAL INFORMATION COLLECTION AND DISSEMINATION SYSTEM USED FOR PSYCHOLOGICAL PURPOSES.

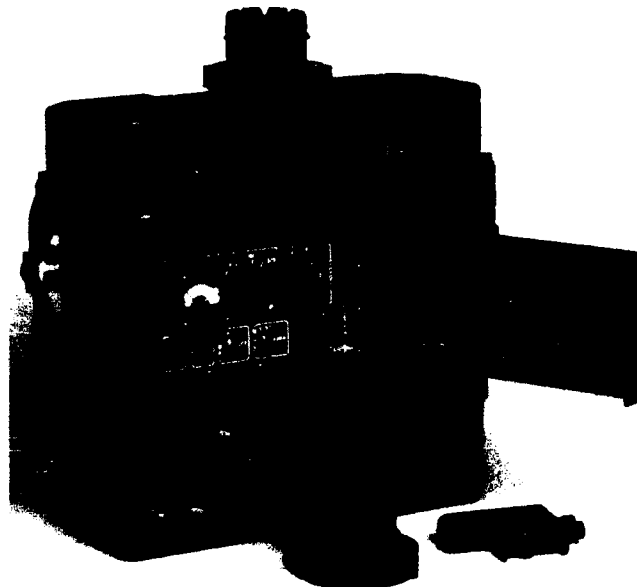
SOF

AN/PPN-19, RADAR TRANSPONDER

PROJECT MANAGER: Mr. John Peace, DSN 995-2049  
COMM 908/544-2049

PE & LINE #: D475

DESCRIPTION: The AN/PPN-19 is a device that responds to an airborne radar interrogation and provides to the aircraft its ID and position. It is used for en route navigation, drop zone location, air strip marking and ordnance delivery.



HISTORICAL BACKGROUND:

Sep 89 - Contract award of 106 Transponders.  
Sep 91 - Option award of 60 Transponders.  
1QFY92 - First Article Test and report accepted.  
May 93 - FUE.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
PRODUCTION CONTRACT	— !																											
MATERIEL RELEASE	!																											
FIRST UNIT EQUIPPED (CURRENT BUY)	!																											
COMPLETE FIELDINGS					!																							

REQUIREMENTS DOCUMENT: Letter Requirement, 28 Sep 79.

TYPE CLASSIFICATION: Standard approved 1 Jun 84.

AN/PPN-19 IS A DEVICE THAT RESPONDS TO AN AIRBORNE RADAR INTERROGATION AND PROVIDES TO THE AIRCRAFT ITS ID AND POSITION.



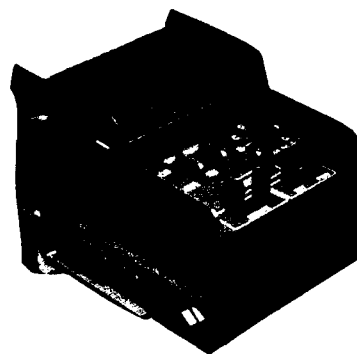
SOF

AN/PPN-20, MINIATURE MULTIBAND BEACON (MMB)

PROJECT MANAGER: Mr. John Peace, DSN 995-2049  
COMM 908/544-2049

PE & LINE #:

DESCRIPTION: The AN/PPN-20 is intended to replace the AN/PPN-19. The AN/PPN-20 is a self contained, lightweight, man-portable ground-emplacement radar transponder designed for use by the Special Operations Forces. The AN/PPN-20 will be a third of the size and weight of the AN/PPN-19.



HISTORICAL BACKGROUND:

Jan 91 - MS I IPR.  
Aug 91 - Prototype Development contract award.  
Aug 93 - Completion of contractor development technical testing.  
Sep 93 - Completion of government operational test.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
PROTOTYPE DEVELOPMENT																												
TECHNICAL TEST AND CUSTOMER TEST																												
CONCLUSION OF DEVELOPMENT PHASE (LETTER IPR)																												

REQUIREMENTS DOCUMENT: ROC, Nov 90.

TYPE CLASSIFICATION: N/A.

AN/PPN-20 IS A SELF CONTAINED LIGHTWEIGHT MAN-PORTABLE GROUND REPLACEMENT RADAR TRANSPONDER DESIGNED FOR USE BY THE SPECIAL OPERATIONS FORCES.

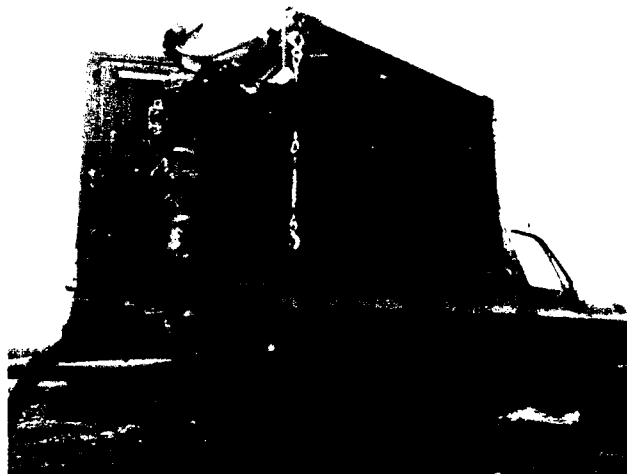
SOF

AN/TSC-122, COMMUNICATIONS CENTRAL

PROJECT OFFICER: Mr. Edmund Erskine, DSN 995-2246  
COMM 908/544-2246

PE & LINE #: D474

DESCRIPTION: The AN/TSC-122 will provide the Special Forces with multichannel radio access to the Defense Communications System (DCS) (AUTODIN and DSN) and provide intra-theater communications between operating bases. The assemblage will consist of non-developmental components configured in an S-250 Shelter or equivalent, which will be mounted on a customer-owned M-1028 CUCV or M-1097 High Mobility Multi-purpose Wheeled Vehicle (HMMWV). The system will communicate with the current family of DCS Communications Centrals, provide single-channel High Frequency (HF) data communications with the present standard radio telewriter sets. AN/GRC-122 and AN/GRC-142, and singlechannel voice communications with standard Army HF radios including the IHFR family. A 2,500 mile communications range will be provided by Sloping "V" antennas included as part of the system.



HISTORICAL BACKGROUND:

Jun 86 - AMC Procurement Request Notice issued.  
Jul 86 - Market Investigation.  
Jan 87 - User technical requirements re-defined.  
Apr 89 - Contract Award.  
4QFY90 - Materiel Release.  
1QFY91 - FUE.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
MILESTONE III						!																						
PRODUCTION CONTRACT		!																										
TYPE CLASSIFY STANDARD IPR						!																						

REQUIREMENTS DOCUMENT: Limited Procurement-Urgent.

TYPE CLASSIFICATION: Limited Procurement-Urgent approved Dec 86, HQDA.

AN/TSC-122 IS A MULTICHANNEL HF RADIO COMMUNICATION CENTRAL THAT WILL PROVIDE ACCESS TO THE DEFENSE COMMUNICATIONS SYSTEMS AS WELL AS PROVIDING LONG RANGE POINT-TO-POINT VOICE AND DATA COMMUNICATIONS IN THE 2 TO 30 MHz FREQUENCY RANGE.

SOF

OE-452/PRC ANTENNA GROUP, SPECIAL OPERATIONS RADIO ANTENNA  
KIT

PROJECT MANAGER: Mr. Jerry Mohr, DSN 995-2391  
COMM 908/544-2391

PE & LINE #: D474

DESCRIPTION: The SORAK is a kit of lightweight components for constructing and erecting mission specific High Frequency (HF) or Very High Frequency (VHF) antennas for tactical outstation use.

HF Antennas: Terminal Sloping Dipole - short range  
117 ft. Sloping "V" - short or medium range  
234 ft. Sloping "V" - medium or long range.  
438 ft. Bent Longwire - long range.  
VHF Antennas: 176 ft. Inverted "V".



HISTORICAL BACKGROUND:

Sep 89 - Contract award.  
May 92 - Materiel Release.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
FIELDING				!																								
TC STD				!																								
LEVEL III TRANSITION							!																					

REQUIREMENTS DOCUMENT: ROC, Jul 89.

TYPE CLASSIFICATION: Generic approved Jun 89; Standard approved Sep 92.

SORAK IS A KIT OF ANTENNAS USED WITH HF AND VHF RADIO SETS.

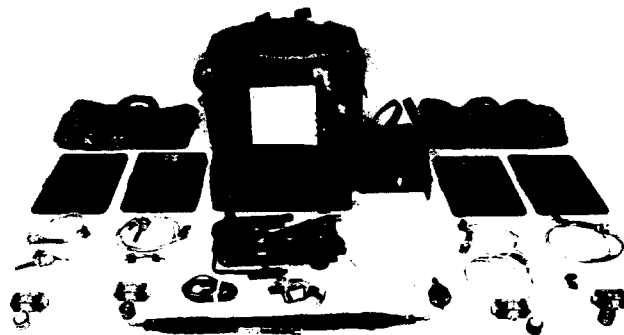
SOF

OP-177/U, POWER SUPPLY ASSEMBLY

PROJECT MANAGER: Mr. John Peace, DSN 995-2049  
COMM 908/544-2049

PE & LINE #: 1110011A/D474

DESCRIPTION: The OP-177/U, Power Supply Assembly provides a kit of small non-depleting electrical power producing devices. It is a family of three electronic power sources and interconnecting appliques used to recharge SOF rechargeable batteries. OP-177/U, Power Supply Assembly configuration is as follows:



- 1 ea System Carrying Bag with Sling
- 1 ea Generator Bag containing:
  - 1 ea G-67B/G Generator, direct current
  - 1 ea Interconnecting Cable
- 2 ea Solar Bags, each containing:
  - 2 ea Solar Panels
  - 2 ea Power Supply Adapters
  - 2 ea DC/DC Adapters
  - 4 ea Interconnecting Cables
- 1 ea AC/DC Power Converter containing:
  - 1 ea International/Universal Wall Socket Adapter Kit
  - 1 ea AC/DC Power Converter

HISTORICAL BACKGROUND:

- o TC LPU Approved Mar 89.
- o G-67 B/G Produced by USARL.
- o Solar Panels Produced by Photocomm, Inc.
- o Power Supply Adapter Produced by Frezzolini Electronics, Inc.
- o FUE for LPU System Jul 92.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
MILESTONES I/III (TYPE CLASSIFY GENERIC)	!																											
PRODUCTION AWARD (STANDARD SYSTEM)		!																										
FIRST ARTICLE TEST (FAT)					!	!																						
TECHNICAL TESTING (USATECOM)					!	!	!																					
START PRODUCTION DELIVERY					!	!	!																					
OPERATIONAL TESTING (USAOEC)								!	!																			
IPR-TC STD																												
FIRST UNIT EQUIPPED (FUE)									!																			

REQUIREMENTS DOCUMENT: Approved ORD, 20 Dec 91.

TYPE CLASSIFICATION: TC Generic at MS I/III, 23 Dec 92.

OP-177/U, POWER SUPPLY ASSEMBLY PROVIDES A KIT OF SMALL NON-DEPLETING ELECTRICAL POWER PRODUCING DEVICES.

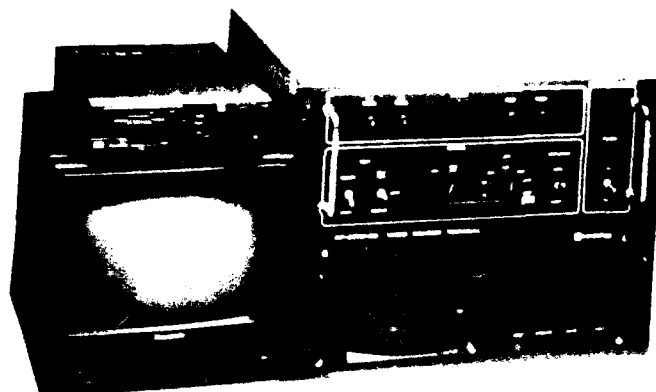
SOF

ELECTRONIC FILMLESS CAMERA SYSTEM (EFCS)

PROJECT MANAGER: Mr. William Krajenski, DSN 992-0014  
COMM 908/532-0014

PE & LINE #: D476

DESCRIPTION: The EFCS consists of forward area outstation and rear area base station. The outstation still-video camera (hand-held or tripod mounted) captures, electronically stores, and converts the picture/image data to a digital format suitable for radio transmission. The base station converts the data to a TV picture and/or a printed image. Identification: aircraft at 1000 meters; faces at 200 meters; personnel gear/weapons at 600 meters; Base Station has a capacity to copy documents or fingerprints.



HISTORICAL BACKGROUND:

1QFY91 - Contract award.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
COMBINED IT/UT TEST					!																							
DELIVERY FOR IT/UT					!																							
SIPR					!																							
DELIVERY TO SOFSA						!	!																					

REQUIREMENTS DOCUMENT: ROC, 13 Dec 89.

TYPE CLASSIFICATION: Generic approved Dec 89.

EFCS PROVIDES SURVEILLANCE AND INTELLIGENCE GATHERING CAPABILITY (SCENES, PERSONNEL I.D., DOCUMENTS).

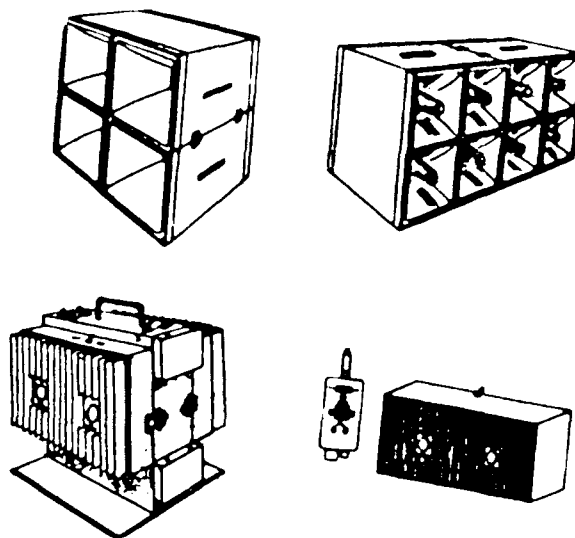
SOF

FAMILY OF LOUDSPEAKERS (FOL)

PROJECT MANAGER: Mr. Jerry Mohr, DSN 995-2391  
COMM 908/532-2391

PE & LINE #: D476

DESCRIPTION: The FOL is a family of modular audio broadcast system which will provide PSYOPS forces with the capability to provide high quality audio dissemination and acoustic deception while transported mounted in vehicles (wheel, track), aircraft (rotary wing), and dismounted for ground operations.



HISTORICAL BACKGROUND:

Sep 91 - Validated Mission Need Statement (MNS).  
Jul 93 - Draft TEMP, ILSP, Spec.  
Aug 93 - Market Investigation.  
Nov 93 - ORD Validated.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
MILESTONE I/II																												
SOURCE SELECTION EVALUATION BOARD																												
AWARD																												
TEST																												
IPR																												
MATERIEL RELEASE																												
REQUIRED DELIVERY DATE																												
FIRST UNIT EQUIPPED																												

REQUIREMENTS DOCUMENT: Validated MVS, 26 Sep 91.  
Validated ORD, 10 Nov 93.

TYPE CLASSIFICATION:

THE FOL WILL BE MODULAR AND INCORPORATE AN INTERCHANGEABLE BUILDING BLOCK LOUDSPEAKER SYSTEM FOR USE BY PSYOPS FORCES IN A VARIETY OF APPLICATIONS.

PM JASORS

PM, JASORS

JOINT ADVANCED SPECIAL OPERATIONS RADIO SYSTEM (JASORS)

PRODUCT MANAGER: LTC John Dillard, DSN 995-3122  
COMM 908/544-3122

PE & LINE #: 1160404BB

DESCRIPTION: JASORS is an MPF 11-funded ACAT III program managed by CECOM to quickly develop and field a Low Probability of Interception and Detection (LPI/D) communications system for USSOCOM. It is comprised of a Digital Message Entry Device (DMED), HF-UHF SATCOM-LPI/D Manpack Radio (MPR), hand-held VHF/UHF-AM/FM Intra-Team Radio (ITR), and Integrable Base Station (IBS) which receives and controls the LPI/D mode waveforms. JASORS was conceived for the Special Reconnaissance mission, where Joint SOF are deployed in hostile clandestine environments, since 1984.

HISTORICAL BACKGROUND:

Jul 89 - O&O Plan approved  
Oct 89 - Market survey completed  
Mar 90 - MARB / Milestone 0  
Oct 90 - R&D contract awarded to Harris Corp., Melbourne, FL.  
Sep 91 - CE&D PDR  
Apr 92 - Successful WBHF DEMOD testing  
Jul 93 - All prototype hardware delivered

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
EP/PT Testing Complete				!																								
Milestone I Approval/DEM/VAL Phase				!																								
LPID Testing				!																								
EUT																												
Milestone II/EMD Phase													!															
LRIP																			!									
IOTE																									!			
full Rate Production																										!		

REQUIREMENTS DOCUMENT: Joint Required Operational Capability (JROC) Approved 12 Jan 89.

TYPE CLASSIFICATION: FY 99

JASORS IS AN MPF 11-FUNDED ACAT III PROGRAM MANAGED BY CECOM TO QUICKLY DEVELOP AND FIELD A LOW PROBABILITY OF INTERCEPTION AND DETECTION (LPI/D) COMMUNICATIONS SYSTEM FOR USSOCOM.



C3I LRC

CCSLA

CCSLA

AN/CYZ-10 and AN/CYZ-10A DATA TRANSFER DEVICE (DTD)

PROJECT MANAGER: Mr. Gerald Zelazny, DSN 879-6408  
COMM 602/538-6408

PRODUCT MANAGER: Mr. Don Milner, DSN 879-7546  
COMM 602/538-7546

PE & LINE #: Z21128

DESCRIPTION: The AN/CYZ-10 and the AN/CYZ-10A Data Transfer Device, hereafter referred to generically as the DTD will replace the existing family of common fill devices, including the KYK-13 Electronic Transfer Device, the KYX-15/15A Net Control Device, and phase out the need for the KOK-18 Electronic Tape Reader. A programmable, and handheld device, the DTD will store data, securely transport and transfer COMSEC and TRANSEC keys, Communications Electronic Operating Instructions (CEOIs), frequency hopping parameters, and network control operating directions. The DTD meets Single Point Keying (SPK) requirements. A Crypto-Ignition Key (CIK) allows users to securely store and transport key and other required comms data. Its other interface is a six pin DS 101/102 (RS-232 and MIL-STD 188-114) connector. The DTD is 1.7 inches high x 3.5 inches wide x 6 inches long. It weighs 24 ounces. The DTD has a 48 character, night or low level ambient vision capable liquid crystal virtual display (LCD) that has 80 columns by 25 rows of data.

HISTORICAL BACKGROUND:

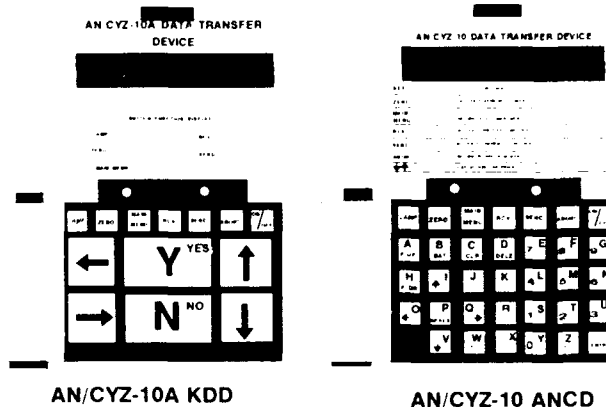
Mar 88 - Operational and Organizational Plan (O&OP)  
Jun 90 - Required Operational Capability (ROC)  
Aug 91 - First Article Testing  
Oct 91 - Test and Evaluation Master Plan (TEMP) Update  
Jul 93 - Initial Fielding First Unit Equipped (FUE)  
Jul 93 - Materiel Fielding Plan (MFP) for Phase I

REQUIREMENTS DOCUMENT: NSA developed

TYPE CLASSIFICATION: Limited TC approved Apr 93. Final TC standard expected 2QFY94.

THE DTD WILL STORE DATA, SECURELY TRANSPORT AND TRANSFER COMSEC AND TRANSEC KEYS, CEOIs, FREQUENCY HOPPING PARAMETERS, AND NETWORK CONTROL OPERATING DIRECTIONS.

## DATA TRANSFER DEVICE



CCSLA

KG-84A, DEDICATED LOOP ENCRYPTION DEVICE  
KG-84C, GENERAL PURPOSE TELEGRAPHY ENCRYPTION DEVICE

PROJECT MANAGER: Mr. Art Chavira, DSN 879-8165  
COMM 602/538-8165

PE & LINE #: KG-84A - E03028  
KG-84C - E03028

DESCRIPTION: The KG-84A/84C are lightweight, low power equipment that provide encryption/decryption of teletype-writers of input/output devices, including PC-type computers and facsimiles. KG-84A/84C are designed to be man-portable in tactical, strategic, vehicle, ship, aircraft and fixed plant environments. A distinguished feature of the KG-84C is the enhanced High Frequency (HF) capability designed for interoperability with the North Atlantic Treaty Organization Communications Equipment and with other services.

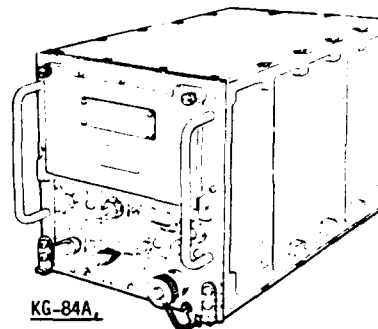
HISTORICAL BACKGROUND:

KG-84A KG-84C

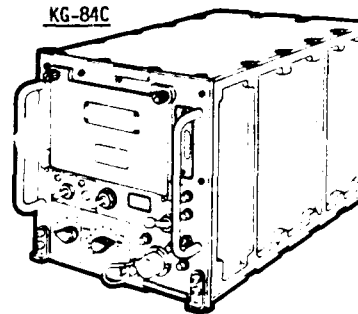
Oct 83	Jun 86	-	Final Qualitative and Quantitative Personnel Requirements Information.
Sep 82	Sep 85	-	First Production contract award.
Feb 84	Sep 87	-	First Article Testing.
Feb 84	Apr 88	-	Initial Deliveries.
Jun 84	Jul 88	-	Material Release.
Jul 84	Aug 88	-	First Unit Equipped.

REQUIREMENTS DOCUMENT: NSA developed.

TYPE CLASSIFICATION: KG-84A - Standard approved Dec 83; KG-84C - Standard approved Jun 86.



KG-84A



KG-84C

KG-84A/84C ARE GENERAL PURPOSE ENCRYPTION/DECRYPTION DEVICE FOR THE PROTECTION OF RECORD AND LOW DATA RATE TRANSMISSION LINKS IN TACTICAL, STRATEGIC, SHIP/AIR AND FIXED PLANT ENVIRONMENTS.

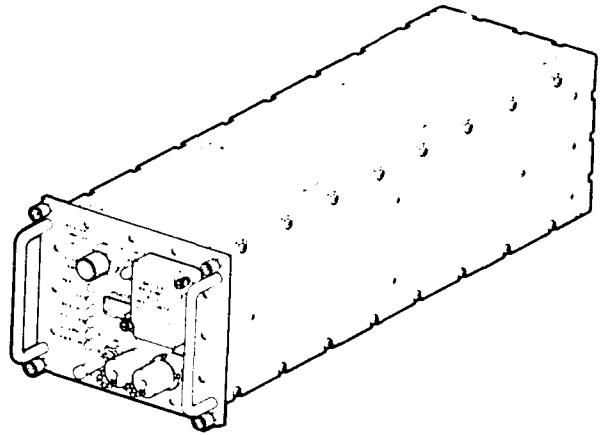
CCSLA

KG-194, TRUNK ENCRYPTION DEVICE

PRODUCT MANAGER: Mr. Herb Hensley, DSN 879-8253  
COMM 602/538-8253

FE & LINE #: T64771

DESCRIPTION: The KG-194 is used for high speed digital encryption in strategic and sheltered environments. KG-194 is capable of digital voice and data encryption/decryption at rates from 9.6 Kps to 13 Mbps. KG-194 is simply a KG-94 with remote rekey capability (FIREFLY). KG-194 is FIREFLY compatible with only other KG-194/194A equipment. However, in the traditional mode of operation, the KG-194 is cryptographically compatible with the KG-81/94/94A/95-1 family of equipment. KG-194 is designed for installation in the HNF-81 or HGF-94 rack adapters and may be used in tactical, mobile, sheltered or fixed plant environments.



HISTORICAL BACKGROUND:

Sep 87 - Contract award to Group Technologies Corporation, Tampa, FL.  
Jun 89 - Contract award to Allied-Signal Aerospace Company, Bendix Communications Division, Baltimore, MD.  
4QFY89 - First Unit Delivery.

REQUIREMENTS DOCUMENT: O&O, 18 Oct 85.

TYPE CLASSIFICATION: Standard approved 30 Jan 86.

KG-194 IS USED FOR HIGH SPEED DIGITAL ENCRYPTION IN STRATEGIC AND SHELTERED ENVIRONMENTS.

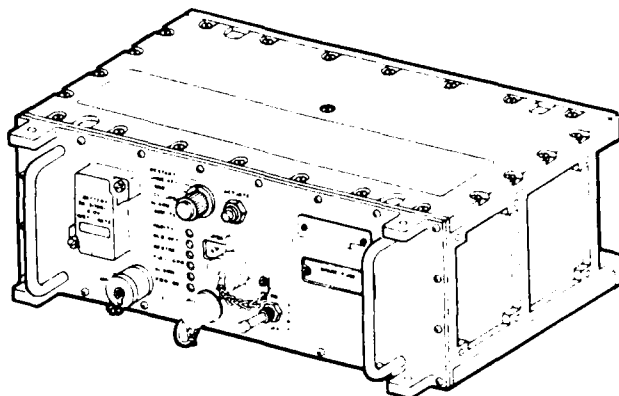
CCSLA

KG-194A, TRUNK ENCRYPTION DEVICES

PRODUCT MANAGER: Mr. Herb Hensley, DSN 879-8253  
COMM 602/538-8253

PE & LINE #: KG-194A and Interface Adapter Unit (IAU)  
T08971

DESCRIPTION: The KG-194A is simply a KG-94A with remote, rekey capability (FIREFLY) added. The difference is in the transmit and power converter Printed Circuit Boards, innerconnect parentboard, and the front panel assembly. The FIREFLY feature provides the user with enhanced keying capability and increases the security of the equipment. The IAU (NSN: 5810-01-280-4746) is designed to mechanically and electrically adapt the KG-94A/194A to a TD-660 multiplexer. This allows the KG-94A/194A to be used to replace the KG-27 electronic key generator in pulse-code-modulated (PCM) applications. The IAU performs voltage-level translation interface. The IAU provides a rear panel configuration. KG-94A/194A with IAU assembly mounts into a 19-inch rack. The power required for the KG-94A/194A is supplied by the IAU. KG-194A is ruggedized and designed for use in tactical, mobile, sheltered, or fixed plant environments with the IAU.



HISTORICAL BACKGROUND:

- 1985 - Production contract awarded to Motorola Scottsdale, AZ, for the KG-94 and KG-94A.
- 1987 - Production contract awarded Group Technologies Corporation, Tampa, FL, for the KG-194 and KG-194A.
- 1988 - Joint Service test conducted on the KG-94A installed with the IAU.
- 1989 - First Unit Equipped, KG-94A.
- 1990 - Production contract awarded to Allied-Signal Aerospace Company, Bendix Communications Division, Baltimore, MD for the KG-194 and KG-194A.
- 2QFY92 - First Unit Equipped, KG-194A.

REQUIREMENTS DOCUMENT:

TYPE CLASSIFICATION: Standard.

KG-194A IS USED FOR TACTICAL AND SHELTERED HIGH SPEED ENCRYPTION.

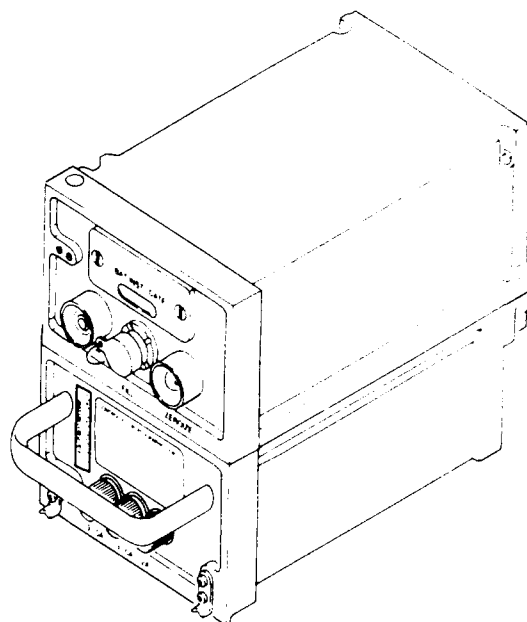
CCSLA

KIR-1C, IDENTIFICATION, FRIEND OR FOE INTERROGATOR COMPUTER  
KIT-1C, IDENTIFICATION, FRIEND OR FOE TRANSPONDER COMPUTER

PRODUCT MANAGER: Ms. Melody Tucker, DSN 879-8344  
COMM 602/538-8344

PE & LINE #: KIR-1C X98250  
KIT-1C X22266

DESCRIPTION: The KIR-1C is used to encrypt and decrypt the Mode 4 Identification, Friend or Foe (IFF) signal generated by ground, airborne, or shipborne IFF interrogator systems. KIT-1C is used to encrypt and decrypt the Mode 4 IFF signal received by ground, airborne, or shipborne, IFF transponder systems. They both provide facilities for electronic fill of the COMSEC key, versus the mechanical fill used in the KIR-1A and the KIT-1A.



EXTERNALLY BOTH THE KIR-1C AND KIT-1C  
ARE IDENTICAL. TOGETHER THEY MAKE UP  
THE KI-1C CRYPTOGRAPHIC COMPUTER

HISTORICAL BACKGROUND:

- 1986 - Development contract let by NSA for the KIR-1B/1C and KIT-1B/1C.
- 1987 - Contract modified to delete requirement for KIR-1B and KIT-1B.
- 1988 - Production contract award to Allied Signal-Bendix Communications Division, Baltimore, MD.
- 1989 - Joint service test conducted on KIR-1C and KIT-1C.
- 1991 - Air Worthiness Certification by AVSCOM; First Unit Equipped KIR-1C and KIT-1C; Initial Operational Capability KIR-1C and KIT-1C.

REQUIREMENTS DOCUMENT: ROC, 5 Oct 88 for the KIR-1C and KIT-1C.

TYPE CLASSIFICATION: Separate Type Classifications were not required as KIR-1C is an F3 modification of KIR-1A and KIT-1C is an F3 modification of KIT-1A.

KIR-1C PROVIDES SECURE IFF MODE FACILITIES FOR IFF INTERROGATOR EQUIPMENT.  
KIT-1C PROVIDES SECURE IFF MODE FACILITIES FOR IFF TRANSPONDER EQUIPMENT.

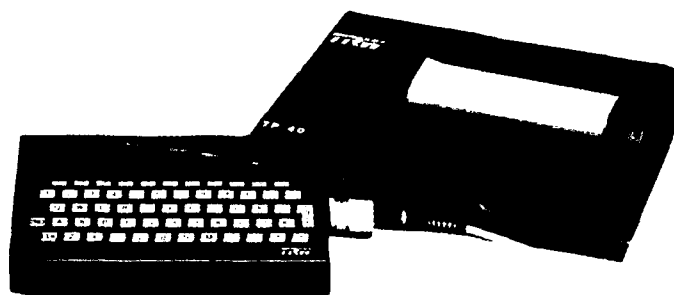
CCSLA

KL-43C, AUTOMANUAL SYSTEM

PRODUCT MANAGER: Ms. Lydia Tillman, DSN 879-8480  
COMM 602/533-8480

PE & LINE #: Z11411 (Temporary)

DESCRIPTION: The KL-43C is a portable, general purpose, off-line electronic crypto device that performs encryption/decryption. KL-43C protects written communications and provides encryption for messages passed over unprotected channels. It is also used for authentication. Messages can be transmitted electronically over compatible circuits using the internal modem. The device will secure all classifications and categories of information. It is a ruggedized terminal for field operation.



HISTORICAL BACKGROUND:

1989 - First Unit Equipped.

REQUIREMENTS DOCUMENTS: KL-43C was originally classified as keying materiel, not equipment. We are in the type classification process now.

TYPE CLASSIFICATION:

KL-43C IS A PORTABLE, GENERAL PURPOSE, OFF-LINE ELECTRONIC CRYPTO DEVICE THAT PERFORMS ENCRYPTION/DECRYPTION.



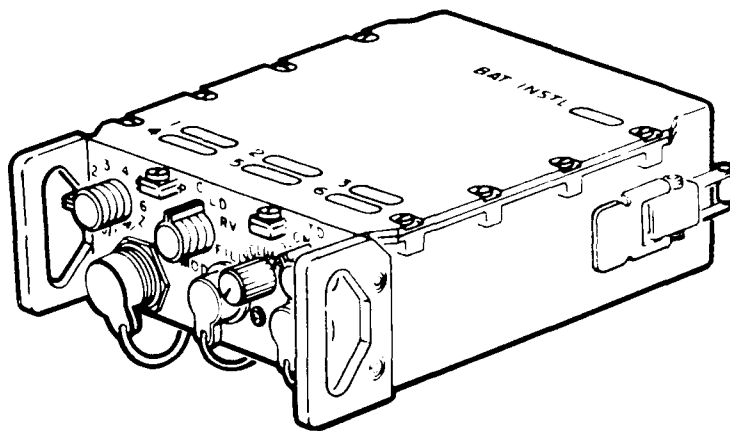
CCSLA

KY-57, COMMUNICATIONS SECURITY EQUIPMENT

PRODUCT MANAGER: Mr. Byron Wienberg, DSN 879-8342  
COMM 602/538-8342

PE & LINE #: S01373

DESCRIPTION: The KY-57, Communications Security Equipment is a lightweight, direct current (DC) powered Controlled Cryptographic Item (CCI) used to provide secured voice or data communications equipments, including the non-ICOM SINGARS, the AN/VRC-112, and the AN/PRC-70. Ky-57 can be operated in manpack, shelterized, and vehicular configurations using CECOM (B16) developed/managed installation kits.



HISTORICAL BACKGROUND:

KY-57 has been in the field as the Army's primary tactical ration encryption device since 1979.

REQUIREMENTS DOCUMENT: ROC, 1972.

TYPE CLASSIFICATION: Standard approved 1975.

KY-57 IS A LIGHT-WEIGHT, DIRECT CURRENT POWERED CONTROLLED CRYPTOGRAPHIC ITEM.

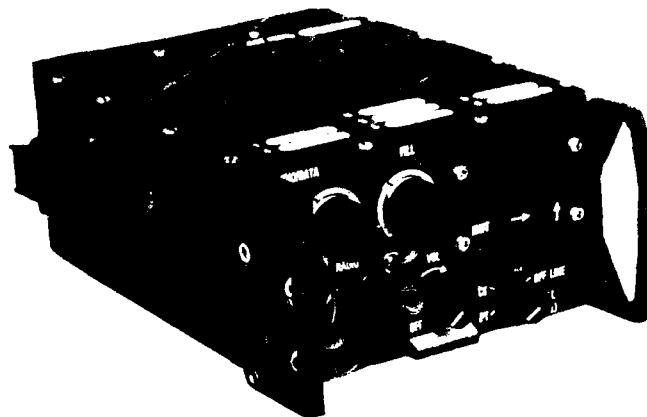
CCSLA

KY-99, MINTERM TERMINAL

PRODUCT MANAGER: Mr. Roosevelt Watson, DSN 879-8234  
COMM 602/538-8234

PE & LINE #: K47623

DESCRIPTION: The KY-99 is a lightweight, low-power, self-contained manpack terminal with embedded COMSEC. It is designed to provide secure voice/data for Improved High Frequency Radio (IHFR), and is interoperable in selected modes with a variety of DOD secure tactical terminals including the ANOVIT Tactical Terminal (TACTERN). KY-99 is an integral part of the Joint Services System, and provides half duplex, narrowband secure voice and data for a variety of military applications. It is also available in vehicular and airborne versions with proposed KY-57 and KG-84 capability.



HISTORICAL BACKGROUND:

- 1987 - Development contract let by NSA.
- 1990 - Production contract awarded.
- 1991 - MINTERM Installation Kit contract awarded.
- 1993 - First Unit Equipped, KY-99

EVENT SCHEDULE:

REQUIREMENTS DOCUMENT: BIOP/QQPRI final approval, Jun 91; JILSP published 31 Oct 91.

TYPE CLASSIFICATION: Standard approved.

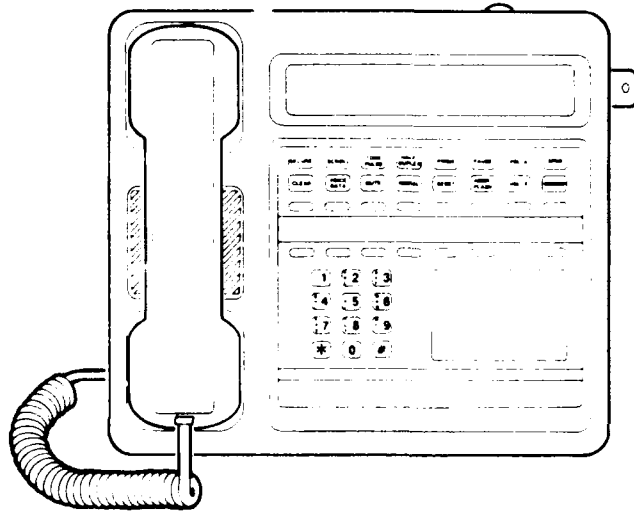
KY-99 PROVIDES SECURE NARROWBAND, HALF DUPLEX VOICE/DATA COMMUNICATIONS FOR A VARIETY OF DOD TACTICAL MILITARY APPLICATIONS.

SECURE TELEPHONE UNIT-III LOW COST TERMINAL (STU-III LCT)

PROJECT OFFICER: Mr. Lynn West, DSN 879-8338  
COMM 602/538-8338

PE & LINE #: S40645

DESCRIPTION: The STU-III LCT is a self-contained modern business telephone which incorporated many modern telephone conveniences. The STU-III LCT provides secure voice, nonsecure (clear) voice and secure data communications in one easy to use telephone. Features include repertory dialing, automatic redial of last number dialed, and one-key dialing of memory-stored numbers. STU-III LCT is a wideband, two-wire, secure telephone. Its physical and security design include temper resistance, TEMPEST compliance, and optional HEMP protection. The STU-III operates full or half duplex over a single telephone line using echo cancelling modem technology. The baseline operation (voice and data) is 2,400 bits per second (bps), with enhanced models capable of 4,800 bps and 9,600 bps operation. It uses FIREFLY public cryptology and is interoperable with a variety of other secure communications requirements. STU-III LCT operates on any worldwide telephone system, replacing the Secure Telephone Unit-II (STU-II). The STU-II was deemed too costly, bulky, and complicated to use, and had poor voice quality.



HISTORICAL BACKGROUND:

- 1985 - The Secretary of Defense (memorandum NSDD-45) ordered replacement of STU-II with the STU-III. A significant feature of the STU-III program was parallel development and production by three companies with direct marketing and delivery to the user community; Three vendors (AT&T, Motorola, and GE (formerly RCA)) were selected for full scale development.
- 1986 - Production contracts award.
- 1988 - Risk analysis study to determine requirements for installation in Army facilities.
- 1992 - Approximately 60,000 STU-IIIs have been fielded based on risk analysis at a cost of just over \$210 million.
- 1QFY92- STU-II equipment replacement completed.

REQUIREMENTS DOCUMENT: NSA development. ISLP published Mar 92.

TYPE CLASSIFICATION: Standard approved 28 Oct 85.

STU-III LCT PROVIDES SECURE AND NONSECURE (CLEAR) VOICE/DATA TELEPHONE COMMUNICATIONS.

DMM

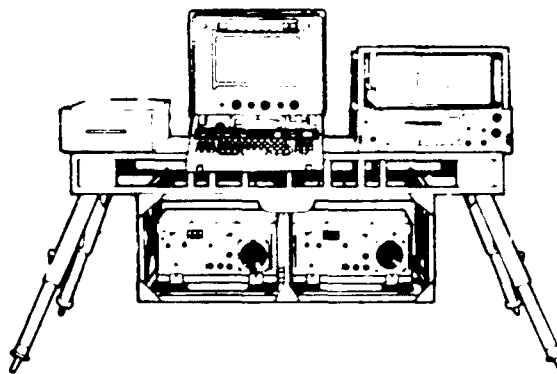
DMM

AN/GYK-29, BATTERY COMPUTER SYSTEM (BCS)

ITEM MANGER: Mr. Robert Saia, DSN 992-4080  
COMM 908/532-4080

PE & LINE #: C40499, D31557, D31625, D31693

DESCRIPTION: The BCS is a small, on-line, militarized computer system used by the Army's cannon batteries, Multiple Launch Rocket System (MLRS) and LANCE. BCS increases field artillery mission effectiveness by providing two-way digital communications between FAFIRE and the battery, and by enabling accurate and rapid individual piece firing data computations. BCS consists of two main components; the OL-200A Battery Computer Unit (BCU) LIN C40499 and the OD-144(V)1,2,3 Gun Direction Unit (GDU) LINs D31557, D31625, D31693. To begin displacement of OL-200 portion of the BCS by IFSAS (Interim Fire Support Automated System) AN/GYK-37(V)1. All versions of the OD-144 to remain in the field.



HISTORICAL BACKGROUND:

1QFY88 - Transition to Systems Management Directorate  
2QFY93 - Transition to DMM.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
ATCCS-COMMON HARDWARE REPLACING BCS	!																											

REQUIREMENTS DOCUMENT: ROC, Oct 75.

TYPE CLASSIFICATION: Standard approved Sep 79.

BCS IS A SMALL, ON-LINE, MILITARIZED COMPUTER SYSTEM USED BY THE ARMY'S CANNON BATTERIES, MULTIPLE LAUNCH ROCKET SYSTEM AND LANCE.

DMM

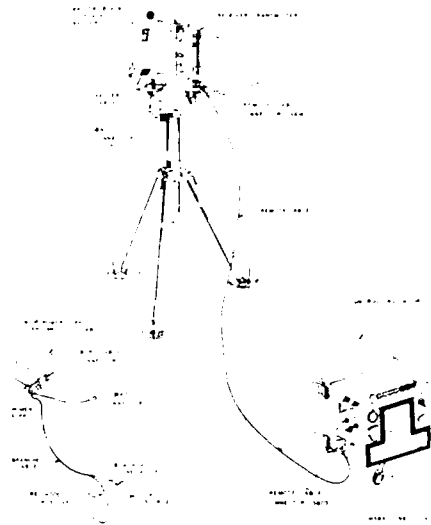
AN/PPS-5B, RADAR SET

PROJECT MANGER: Ms. Charlene Brown, DSN 992-5781  
COMM 908/532-5781

PROJECT MANAGER: Ms. Susan Weir DSN 992-6050  
COMM 908/532-6050

PE & LINE #: C40499, D31557, D31625, D31693

DESCRIPTION: A light weight, man-portable, ground-to-ground surveillance radar set for use by units such as infantry and tank battalions. The radar is capable of detecting and locating moving personnel and vehicles, day or night under virtually all weather conditions. The radar has a maximum display range of 10,000 meters and targets can be displayed both aurally and visually.



HISTORICAL BACKGROUND:

Mar 75 - Sole Source to Eaton Corp. - AN/PPS-5A Radar.  
May 76 - Sole Source to Eaton Corp. - AN/PPS-5B Radar FMS Customer.  
Sep 78 - Sole Source to Eaton Corp. - AN/PPS-5B Radar.  
Oct 89 - Sole Source to Telephonics Corp. - AN/PPS-5B Radar FMS Customer.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
RETEST of GROUP "D"						!																						

REQUIREMENTS DOCUMENT:

TYPE CLASSIFICATION: Type classified Standard "A" on 3 Jun 78.

A LIGHTWEIGHT, MAN-PORTABLE SURVEILLANCE RADAR SET FOR USE BY UNITS SUCH AS INFANTRY AND TANK BATTALIONS.

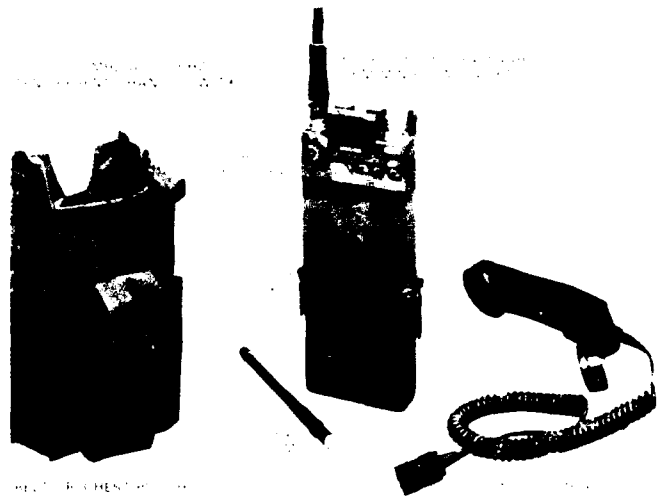
DMM

AN/PRC-126, RADIO SET

ITEM LEADER: Ms. Lynda McDonald, DSN 992-3576/2  
Mr. Jimmy Owens COMM 908/532-3576/2

PE & LINE #: R55336

DESCRIPTION: The AN/PRC-126 is a short range, handheld tactical radio for use primarily at the squad/platoon level. AN/PRC-126 is a lightweight, militarized transceiver providing two-way, voice-communications. The radio covers the frequency range of 30-87.975 megahertz. Its nominal range for reliable communications over rolling, slightly wooded terrain is 3,000 meters. Weighing 52 ounces and measuring 57 cubic inches in size, the radio is capable of interoperating with the AN/VRC-12, AN/PRC-77, and SINCGARS families of radios in the fixed frequency mode. AN/PRC-126 enables small unit leaders to adequately control the activities of subordinate elements in carrying out the unit's mission. AN/PRC-126 is required for the Infantry, Rangers and Special Forces.



HISTORICAL BACKGROUND:

May 85 - VCSA decision to take NDI approach to replace the AN/PRC-68.  
Jul 86 - First Production contract awarded to Magnavox.  
Sep 89 - Phase I fielding completed.  
May 93 - Phase II fielding completed.

REQUIREMENTS DOCUMENT: ROC, 3 Oct 85; Card Reference Number 0851.

TYPE CLASSIFICATION: Standard A approved 30 Jul 86.

AN/PRC-126 RADIO SET IS A HAND-HELD RECEIVER TRANSMITTER THAT PROVIDES SHORT-RANGE, GROUND-TO-GROUND VOICE COMMUNICATION IN THE 30 MEGAHERTZ to 80 MEGAHERTZ BAND.

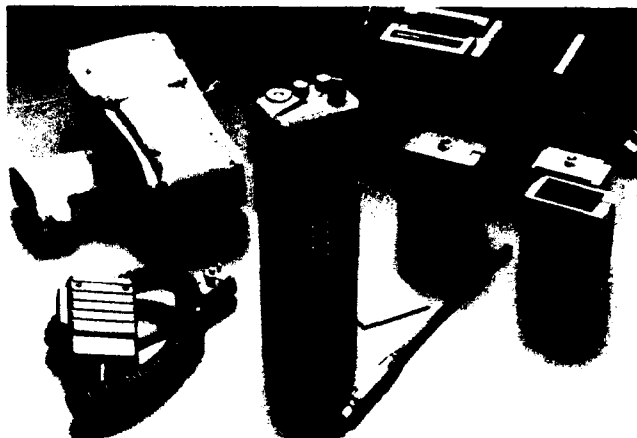
DMM

AN/PRC-127, RADIO SET

PROJECT OFFICER: Ms. Lynda McDonald DSN 992-3572/6  
Mr. Jimmy Owens COMM 908/532-3572/6

PE & LINE #: N17818

DESCRIPTION: The AN/PRC-127 is a short range, hand-held, non-militarized radio for use primarily by support troops. AN/PRC-127, is a small, lightweight, Very High Frequency (VHF) radio capable of providing two-way voice communications at ranges up to three kilometers. The approximate size of the radio is 7.8" by 2.5" by 1.5", weighing approximately 24 ounces. It covers at minimum, the frequency range of 136-160 megahertz. AN/PRC-127 will be employed at the lowest echelon of command to control squad and team-sized elements of Combat Service and Combat Service Support units whose mission requires the use of a radio for control of supply areas, construction areas, convoys, base defense and dismounted rear battle operations. Radio set includes Receiver/Transmitter, Antenna, Speaker/Microphone, Nickel Cadmium Battery Packs, Battery Charger, Non-Rechargeable Battery Cell Holder, and nylon case holders.



HISTORICAL BACKGROUND:

May 85 - VCSA decision on NDI approach to replace AN/PRC-68 radio.  
Feb 88 - Sole Source Contract awarded to Bendix/King.  
Nov 92 - Bendix/King repair contract for RT-1594/PRC-127.

REQUIREMENTS DOCUMENT: ROC, 7 Jan 87.

TYPE CLASSIFICATION: Standard approved 29 Jan 88.

AN/PRC-127 NON-HARDENED SMALL UNIT RADIO IS A COMPACT, LIGHTWEIGHT, HAND-HELD TRANSCEIVER. IT IS CAPABLE OF PROVIDING SMALL UNIT LEVEL COMMUNICATIONS OVER DIVERSE TERRAIN UNDER A WIDE RANGE OF CLIMATIC CONDITIONS.



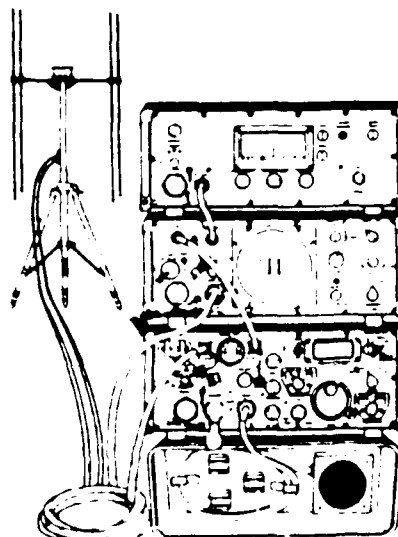
DMM

AN/PRD-11, MINI-FIX

ITEM MANAGER: Ms. Barbara Haggerty, DSN 992-3032  
COMM 908/532-3032

PE & LINE #: R36561 SSN: W2340000GWD

DESCRIPTION: The MINI-FIX is a man-portable direction finding system. It is composed of a man-portable vehicular radio receiver and direction finder (DF) processor system, signal monitor, DF processor (the controlling unit in the DF system), and DF antenna. MINI-FIX can be easily transported and maintained in the field, while providing highly accurate intercept and Line-of-Bearing (LOB) information. This system was initially provided to Communications Electronics Warfare Intelligence (CEWI) units via the Intelligence and Security Command (INSCOM) program as an NDI training system.



HISTORIC BACKGROUND:

- Dec 79 - Purchased by FORSCOM for readiness training. A total of 75 original system were purchased without ILS.
- Jul 84 - CECOM tasked by DA to support FORSCOM in developing ILS.
- Aug 86 - Fielding of all ILS by on-site delivery team commenced to Korea Nov 86 and Panama Dec 86.
- Aug 87 - Full organic support to all FORSCOM and OCONUS activities.
- Mar 89 - System upgraded to include battery charger, high frequency capability, up-converter CV4090.
- Aug 93 - Transitioned from FORSCOM (Level I) to CECOM, DMM (Level III).

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
TRANSITION FROM FORSCOM TO CECOM																												

REQUIREMENTS DOCUMENT: HQDA message authorized procurement, 231742Z Nov 83.

TYPE CLASSIFICATION: Limited Procurement-Urgent approved Jan 89.

MINI-FIX IS A MAN-PORTABLE DIRECTION FINDING SYSTEM.

MM

AN/USC-43(V)2, ADVANCED NARROWBAND DIGITAL VOICE TERMINAL  
(ANDVT) TACTICAL TERMINAL

ITEM MANGER: Mr. Ernest McFarlin, DSN 992-2588  
COMM 908/532-2588

PE & LINE #: 5211.605042

DESCRIPTION: The ANDVT provides a narrowband, secure voice capability for tactical and strategic echelons. It is used in a variety of locations ranging from fixed plant to vehicles. ANDVT Tactical Terminal (TACTERM) provides fixed and mobile forces with the capability of secure voice or data transmission via High Frequency (HF), Very High Frequency (VHF), ultra High Frequency (UHF) radio satellite systems, wireline, or Net Radio Interfaces (NRI). ANDVT is a IRI-TAC item of equipment and meets the interoperability requirements of STANAGs 4197, 4198 and 4291. ANDVT TACTERM in its standard configuration consists of two equipments: A Basic Terminal Unit, CV-3591, (P)/U, and a COMSEC Module, KYV-5/ISEC, hereafter referred to as the BTU and CM respectively. A third equipment, the Interface Unit, J-3953 (includes cables and field mount) is used only when the ANDVT TACTERM directly replaces a KY-65 or for wireline applications. In other configurations, the BTU/CM assembly will directly replace a KY-75.



HISTORICAL BACKGROUND:

Dec 85 - Letter contract award.  
Feb 87 - MIPR to Navy - 1987 funds.  
Apr 88 - FAT completed.  
May 90 - Materiel Fielding Plan (MFP).  
Aug 90 - Interim conditional/fielding release approved by AMC.  
Jul 92 - HQDA authorization for units to retain units.

REQUIREMENTS DOCUMENT: JOR SM-869-76 validated, Oct 76.

TYPE CLASSIFICATION: Correspondence IPR, 17 Oct 85; Standard.

ANDVT TACTICAL TERMINAL WILL PROVIDE FIXED AND MOBILE FORCES WITH THE CAPABILITY OF SECURE VOICE OR DATA TRANSMISSION VIA HIGH FREQUENCY, VERY HIGH FREQUENCY (VHF) ULTRA HIGH FREQUENCY (UHF) RADIO SATELLITE SYSTEMS, WIRELINE, OR NET RADIO INTERFACES.

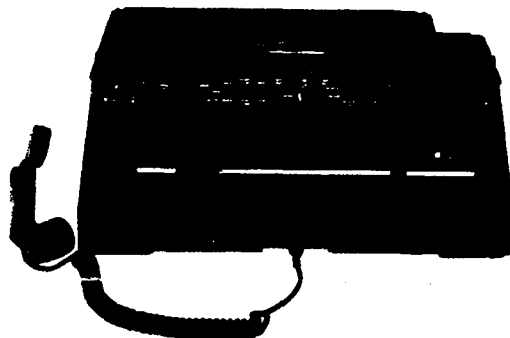
DMM

AN/UXC-7, LIGHTWEIGHT DIGITAL FACSIMILE (LDF)

ITEM MANAGER: Mrs. Toni Alaimo, DSN 992-3403  
COMM 908/532-3403

PE & LINE #: L67964

DESCRIPTION: The AN/UXC-7 is a non-developmental program and provides facsimile graphic/narrative traffic capability over digital switched voice and data networks, combat net radios, and supplements the Single Subscriber Terminal and/or communications centers at maneuver elements from battalion through echelons above corps. LDF is capable of operating over voice bandwidth channels having error rates up to 1 in 1000. It is also capable of operating over tactical cable/wire systems through direct wireline interface and tactical switching systems. LDF is capable of operating both with and without approved COMSEC appliques in all of the above configurations. NATO interoperability conforming to J-ARNS 5000 is provided. The 55 pound LDF is capable of transmitting/receiving handwritten/typewritten copy, sketches, and overlays up to 8 1/2" by 14" in black and white format. The required on-the-air time is less than 15 seconds at 16 kilobytes per second for an average 8 1/2" by 11" typewritten page.



HISTORICAL BACKGROUND:

- Mar 85 - Protest resolved; Production contract awarded to Magnavox Advanced Products and System Company.
- May 86 - First Article Test completed/secure lighting modification implemented.
- Jul 89 - Army deliveries completed.
- Jun 91 - Contract Modification for out-of-warranty depot level repair.
- Jul 91 - Full Materiel Release.
- Jun 92 - Management Transistion to Level III Management for PM MSCS.

REQUIREMENTS DOCUMENT: Joint Operational Requirement MJCS-26-84, 17 Feb 84.

TYPE CLASSIFICATION: Standard approved 12 Sep 84.

AN/UXC-7 IS A TERMINAL FOR TRANSMISSION/RECEPTION OF FACSIMILE GRAPHIC/NARRATE TRAFFIC OVER DIGITAL SWITCHED VOICE AND DATA NETWORKS, AND COMBAT NET RADIOS, AND SUPPLEMENTS THE SINGLE SUBSCRIBER TERMINAL AND/OR COMMUNICATIONS CENTERS.

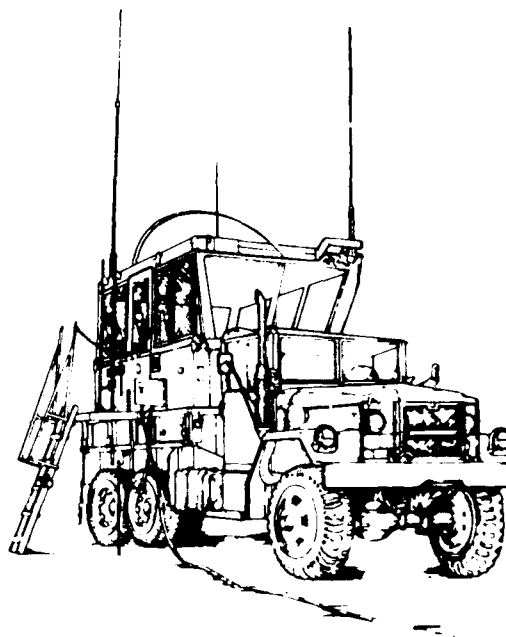
DMM

AN/TSW-7A, AIR TRAFFIC CONTROL CENTRAL

PROJECT MANAGER: Mr. Jeffrey Kamen, DSN 992-4866  
COMM 908/532-4866

PE & LINE #: A27624 SSN: P454010

DESCRIPTION: The AN/TSW-7A is a mobile Air Traffic Control facility that can be deployed to tactical air fields for visual control of airborne and ground flight operations. This facility consists of a communications shelter and an ancillary equipment pallet. The communications shelter contains HF/UHF/VHF communications equipment and can accommodate up to three air traffic controllers at one time. Ancillary environmental control and power generating equipment contained on the pallet assembly provides the self-contained capability for operation of this system. Transport of the communications shelter and pallet assembly is accomplished via two each 2-1/2 ton trucks which permits tactical deployment of this facility.



HISTORICAL BACKGROUND:

Sep 79 - Production contract award for 22 systems.  
Jun 82 - First Unit Equipped.  
Nov 84 - System transition from AVRADA to CECOM.  
Jun 86 - Six additional systems procured by active Army.  
May 88 - ECPs approved for communications equipment upgrade.  
Dec 89 - Initial fielding of upgraded communications equipment.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
TRANSITION TO LEVEL III						!																						

REQUIREMENTS DOCUMENT: Statement of Need prepared by USAISC in Nov 78 to modify an existing Air Force system for Army use.

TYPE CLASSIFICATION: Standard approved Oct 80.

AN/TSW-7A AIR TRAFFIC CONTROL CENTRAL IS A TRANSPORTABLE FACILITY THAT CAN BE DEPLOYED AT TACTICAL AIR STRIPS FOR AIRBORNE AND GROUND CONTROL OF AIRCRAFT.

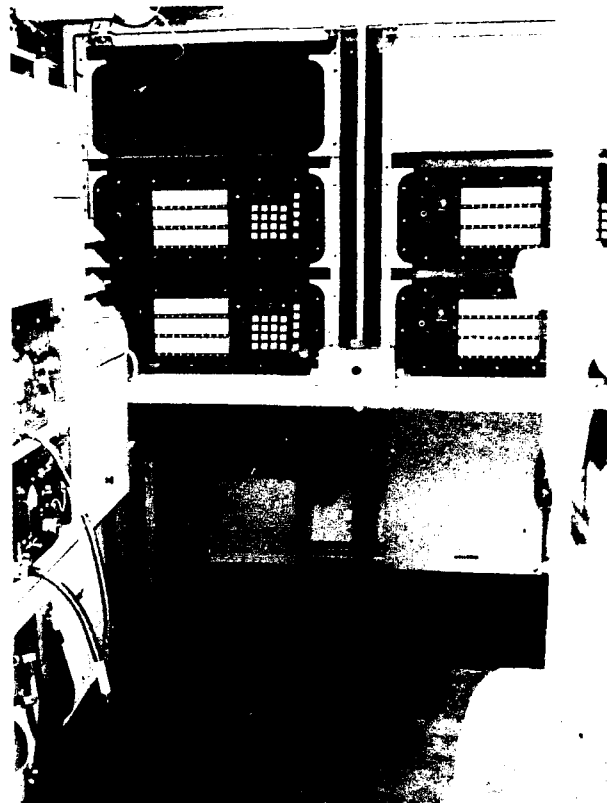
DMM

AN/TTC-41(V), CENTRAL OFFICE, TELEPHONE, AUTOMATIC

ITEM MANAGER: Cindy Clayton, DSN 992-3338  
COMM 908/532-3338

PE & LINE #: 738017-P1

DESCRIPTION: The AN/TTC-41(V) is an air or vehicular transportable system used to provide rapid automatic switching to tactical units in area-type communications system. It provides cordless service to 2-wire common battery signaling (CRS) lines; 20 hertz ringdown (RD) lines or trunks; common battery dial pulse or dual tone multi-frequency (DTMF) lines; 4-wire tone signaling trunks; 4-wire DTMF confirmation, tone burst, and converter trunks; 4-wire single frequency signaling AUTOVON access; automatic tandem, and five levels of precedence and preemption. Depending on the number of SB-3614(V)A/17 Switchboards in the AN/TTC-41(V) shelter, the system can provide from 30 to 120 lines of service. AN/TTC-41(V) replaces the AN/MTC-3, AN/MTC-7, and AN/TTC-23. Materiel Change program (MC 1-90-07-0015) provides an arctic heater to the AN/TTC-41(V) shelter for those systems operating in arctic weather.



#### HISTORICAL BACKGROUND:

Sep 76 - Production contract awarded to SAAD.  
Jul 77 - Prototype Testing.  
Jun 90 - Arctic heater Materiel Change approved by CCB/SLRB.  
Aug 90 - Arctic heater Materiel Change applied to units fielded in arctic weather.  
May 90-Pres- Systems being fielded under the Battlefield Communication Review Program (BCR).

#### EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
BCR FIELDINGS					! ____ !																							

REQUIREMENTS DOCUMENT: Qualitative Materiel Requirement approved Feb 72, amended Jan 73.

TYPE CLASSIFICATION: AN/TTC-41(V)1 to (V)4, Standard, Jul 77. AN/TTC-41(V)5 to (V)7, Limited Production, Mar 78.

AN/TTC-41(V) PROVIDES RAPID AUTOMATIC SWITCHING TO TACTICAL UNITS IN AN AREA-TYPE COMMUNICATION SYSTEM.

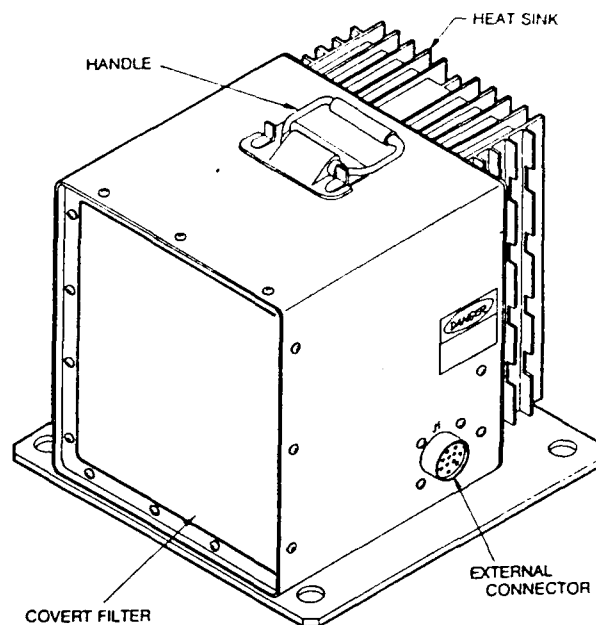
DMM

MISSILE COUNTERMEASURE DEVICE (MCD)

SYSTEM SUPPORT MANAGER: Mike Conte, DSN 992-3918/85  
COMM 908/532-3918/85

PE & LINE #: Z19859

DESCRIPTION: The MCD is an Electronic Infrared Countermeasure device designed to protect U.S. Army Ground Combat Vehicles from Anti-Tank Guided Missile (ATGM) threats. It is mounted on the outside of the vehicles and counters the missile threat by confusing the missile's sensors causing the missile to miss its target. The combat vehicles selected are the Abrams Tank, the Bradley Fighting Vehicle System (BFVS) and the Sheridan. The MCD will be mounted on the turret of the vehicles stated above using an interface hardware kit provided by the host vehicle manufacturers. These units will operate in a low power mode using 600 watts of electrical power from the vehicle system. This system will neither replace or displace a current system or current Associated Item of Equipment (ASIOE).



Missile Countermeasures Device

HISTORICAL BACKGROUND: The MCD is a Department of the Army (DA) directed urgent Desert Storm requirement. The MCD is Type Classified Limited Procurement Urgent (LPU) and is in the process of being Type Classified Standard. The decision to field the MCD was made by Department of the Army Deputy Chief of Staff for Operations (DCSOPS), May 91. The projected fielding dates are:

- BFVS - 4QFY93 (status: MCDs have been prepositioned for this effort)
- Abrams Tank - 3QFY94
- Sheridan - 1QFY94

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1				1				1				1				1				1			
FIELDINGS:																												
BFVS					!																							
Abrams Tank								!																				
Sheridan																												

REQUIREMENTS DOCUMENT: Mission Need Statement. Secret MSG dated 041430Z, Jan 91.

TYPE CLASSIFICATION: Type Classified LPU. In process of being classified STANDARD, Sep 93.

THE MCD IS AN ELECTRONIC INFRARED COUNTERMEASURES DEVICE DESIGNED TO PROTECT U.S. ARMY GROUND COMBAT VEHICLES FROM ANTI-TANK GUIDED MISSILE (ATGM) THREATS.

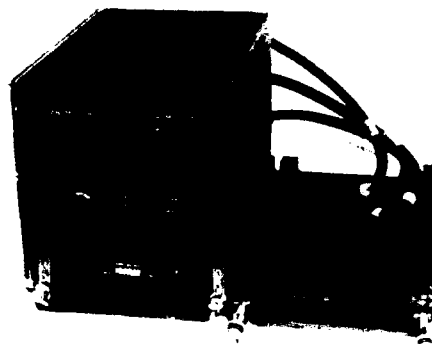
DMM

MK-2488/G, INSTALLATION KIT

PROJECT LEADER: Ms. Carol Magee, DSN 992-4331  
COMM 908/532-4331

PL & LINE #: A1-6E50621G04; A1-7E50671G02

DESCRIPTION: The MK-2488/G Installation Kit is used to maintain electrical capability between older high level segnal teletypewriters(TTYs)/modems and newer low level signal security equipment. The Installation Kit consists of an interconnecting box, cables and mounts installed in various Army TTY-Radio Communication Assemblages. Kit permits replacment of Telecommunications Security (TSEC)/KW-7 by the KG-84 in assemblages with high level signal TTY and modems (TH-5/22, MD-522, TT-4/76/98).



HISTORICAL BACKGROUND:

- 1986 - Competitive contract award to Sechan Electronics for 2,412 Production Units; Contract Option exercised for 1,001 additional Production Units from Sechan Electronics.
- 1987 - 110 Medley Kits installed at Signal Center Ft. Gordon, GA.
- 1988 - Sechan production deliveries begin; 82nd and 101st AB issued kits; Korea issued kits.
- 1989 - Kit installation began in USAREUR, FORSCOM, Korea.
- 1990 - All delivered completed.

REQUIREMENTS DOCUMENT:

TYPE CLASSIFICATION: Not applicable as units become part of assemblage after kit installation.

MK-2488/G INSTALLATION KIT IS USED TO MAINTAIN ELECTRICAL COMPATIBILITY BETWEEN OLDER HIGH LEVEL SEGRAL TTY/MODEMS AND NEWER LOW LEVEL SIGNAL SECURITY EQUIPMENT.

DMM

OG-174/VRC, AMPLIFIER POWER SUPPLY

PROJECT MANAGER: Mr. Lincoln Jackson, DSN 992-3576  
COMM 908/532-3576

PE & LINE #: A53491

DESCRIPTION: The OG-174/VRC Amplifier Power Supply Group is a vehicle applique that permits the installation of an AN/PRC-68A into Self-Propelled Howitzers (M109 and M110) and M577 Command Tracked Vehicles. When the AN/PRC-68A Radio is mounted in this manner, it will provide short range (less than 5KM) vehicle communications. OG-174/VRC also provides an interface for operation with the AM-1780/VRC Amplifier for intercommunication within the vehicle and the AN/GYK-29 Battery Computer System for communication between firing batteries. OG-174/VRC consists of: Amplifier/Power Supply (vehicle applique); Antenna Coupler; Portable Antenna; Antenna Cable Assembly; and Interface Cable Assembly. The vehicle applique has dimensions of: height - 12.4 inches; width - 11.3 inches; depth - 3.9 inches; and weighs 13 pounds.

HISTORICAL BACKGROUND:

Sep 84 - Contract Award.  
Nov 86 - Production Qualification Test/First Article Test.  
Apr 90 - First Unit Equipped.  
May 90 - Initial Operational Capability.

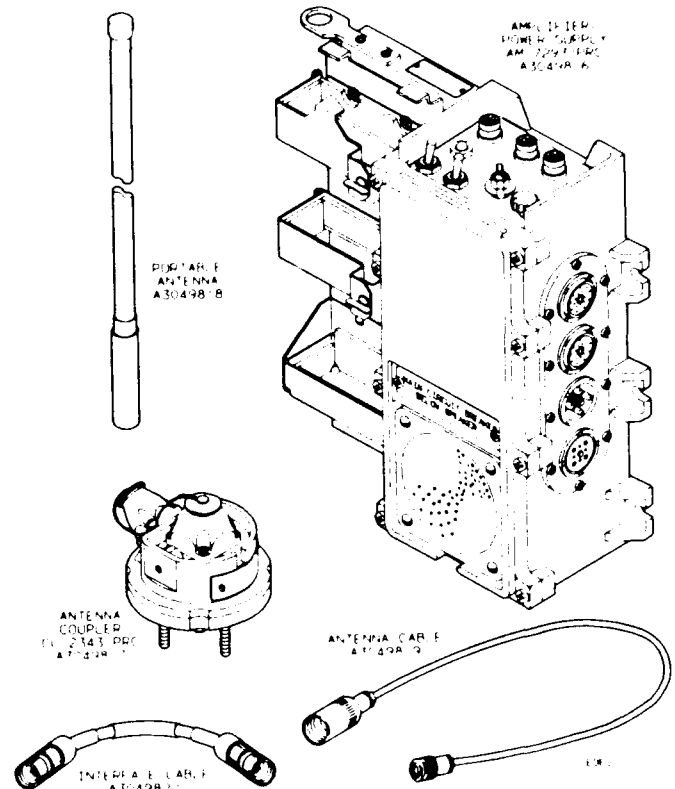
EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1				1				1				1				1				1			
TRANSITION TO LEVEL III																												
COMPLETION OF 35 SET ASSEMBLIES AT DEPOT																												

REQUIREMENTS DOCUMENT: ROC, Apr 79.

TYPE CLASSIFICATION: Limited Procurement approved Dec 82; Extension approved Dec 86; Standard approved Jul 89

OG-174/VRC CONSISTS OF AN AMPLIFIER/POWER SUPPLY (VEHICLED APPLIQUE), ANTENNA COUPLER, PORTABLE ANTENNA, ANTENNA AMPLIFIER ASSEMBLY AND INTERFACE CABLE ASSEMBLY.





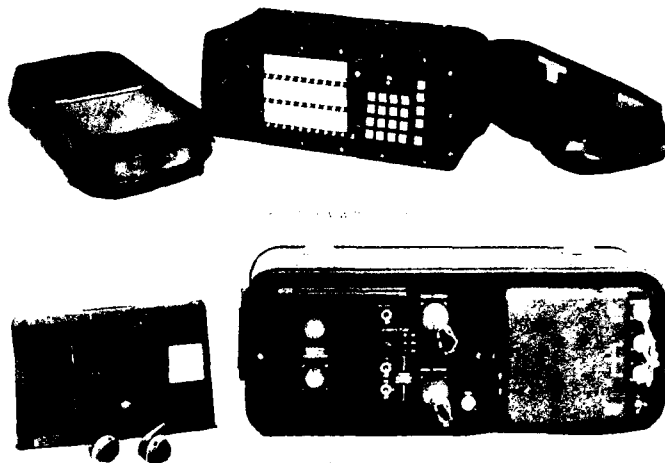
DMM

SB-3614(V)A/TT SWITCHBOARD

ITEM MANAGER: Ms. Cindy Clayton, DSN 992-3338  
COMM 908/532-3338

PE & LINE #: 738017.P1

DESCRIPTION: Two Product Improvement Programs (PIPs) were applied to the SB-3614 following its last production in Apr 79. The first PIP (1-81-07-0021) incorporated Dual Central Office Interface and Software Changes adding the capability to interface with civilian dial central offices and included software changes to correct/modify some functional features of the switchboard. These changes were made through the addition of a DCO card and a Programmable Read Only Memory card for each switchboard. The second PIP (1-83-07-0084) was to add a Tandem AUTOVON Capability (changing the system nomenclature to SB-3614A). The Tandem feature allows the SB-3614A subscriber to reach a destination caller by merely dialing the destination subscriber's appropriate seven to ten digit number. The other user services being provided by this PIP are: automatically primary/alternate trunk routing; TRI-TAC numbering plan capability; five levels of precedence; subscriber initiated conferencing; manual/automatic data base entry and dial central office interface. The Marine Corps are the Primary Inventory Control Activity for the SB-3614A switchboard.



HISTORICAL BACKGROUND:

Sep 83 - DCO contract award.  
Mar 84 - Tandem AUTOVON Development contract award.  
Sep 85 - Tandem AUTOVON Production contract award.  
Sep 86 - DCO kits distributed and applied.  
Jun 87-Apr 90 - Tandem AUTOVON Modification Work Order (MWO) applied to units in Germany, CONUS and Korea.  
May 90-Pres - System fielded as part of the AN/TTC-41(V) under the Battlefield Communication Review (BCR).

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1				1				1				1				1				1			
BCR FIELDINGS	!																											

REQUIREMENTS DOCUMENT: Qualitative Materiel Requirement, 1972; amended, 31 January 1973.

TYPE CLASSIFICATION: Standard A approved.

SB-3614(V)A/TT IS A 30-TERMINAL AUTOMATIC SWITCHBOARD WHICH PROVIDES RAPID CORDLESS SERVICE.

IMMC

IMMC

AN/TLQ-17A(V)3, TRAFFICJAM

PROJECT LEADER: Mr. John D. Zedo, DSN 229-6492  
COMM 703/349-6492

PE & LINE #: BAB101

DESCRIPTION: TRAFFICJAM is a tactical communications jammer. The original vehicle configuration for the AN/TLQ-17A(V)1 TRAFFICJAM system was deployed using two M151 vehicles (jeeps) and two M416 towed trailers. This configuration has safety limitations so jeeps are being phased from the Army inventory. Consequently, the AN/TLQ-17A(V)1 was reconfigured to a High Mobility Multi-purpose Wheeled Vehicle (HMMWV) variant without trailers. The reconfigured system has a Log Periodic Array (LPA) antenna mounted on a S-250 Shelter. The object is to repack the existing Army systems: vehicle, shelters, intercoms, environmental and power systems, radio sets, antenna masts, and the jammer. This configuration is the AN/TLQ-17A(V)3. TRAFFICJAM also provides the jamming subsystem used in QUICKFIX airborne COMINT and jamming system. The airborne version is the AN/TLQ-17A(V)2. SANDCRAB is the project name given to the system that employs an AN/TLQ-17A(V)3 and an OL-317 antenna. Its purpose is long range COMINT and jamming. There are no further product improvements planned for TRAFFICJAM.



HISTORICAL BACKGROUND:

Mar 85 - PIP 1-85-07-0491 approved.  
Apr 85 - AR 70-15 waived.  
Oct 88 - First AN/TLQ-17A(V)3 (Commercial Utility Cargo Vehicle (CUCV) Version) fielding.  
May 89 - CUCV Version fielding completed.  
FY90-92 - HMMWV fielding completed. System was deployed to Operation Desert Storm.  
Jun 92 - Management transition from PM SW to IMMC.

REQUIREMENTS DOCUMENT: PIP 1-85-07-0491.

TYPE CLASSIFICATION: Standard approved Jul 88.

TRAFFICJAM IS A TACTICAL GROUND BASED AND AIRBORNE COMMUNICATIONS JAMMER.

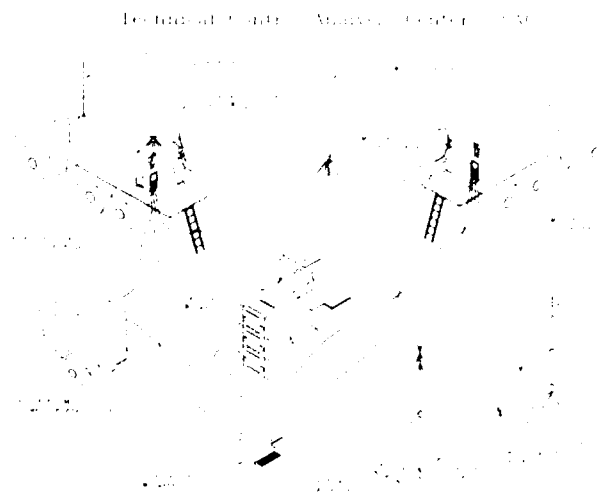
IMMC

AN/TSQ-130(V) TECHNICAL CONTROL AND ANALYSIS CENTER (TCAC)

PRODUCT MANAGER: Mr. Steven A. Foeller, DSN 229-6992  
COMM 703/349-6992

PL & LINE #: P202091; SSN: K7230000GWD

DESCRIPTION: TCAC is a mobile, semi-automated, tactical system. It is designed to manage and control SIGINT/EW and ECM subsystems organic to the Combat Divisions as well as to process data developed by Corps assets. The TCAC provides analysts the means to accept, analyze and integrate data from these subsystems and to generate reports and control/management information in support of intelligence and EW operations.



HISTORICAL BACKGROUND:

Sep 78 - AEWIC Directive QRC-51.  
Dec 79 - Production of 20 shelters began.  
May 83 - Delivered to USAREUR, FORSCOM Units, USAISD.  
May 85 - Communications Upgrade PIP installed.  
Sep 87 - 5 shelters procured for USMC.  
Sep 90 - Deployed to Desert Shield/Desert Storm.  
Apr 91 - Redistribution of VII Corps assets to FORSCOM Units.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
Transition to Level II						!																						

REQUIREMENTS DOCUMENT: Operational and Organizational Concept 31 Mar 80

TYPE CLASSIFICATION: LP; July 83

TCAC IS A COMPUTER-BASED U.S. ARMY C3I SYSTEM THAT SUPPORTS CORPS AND DIVISION TCAEs.

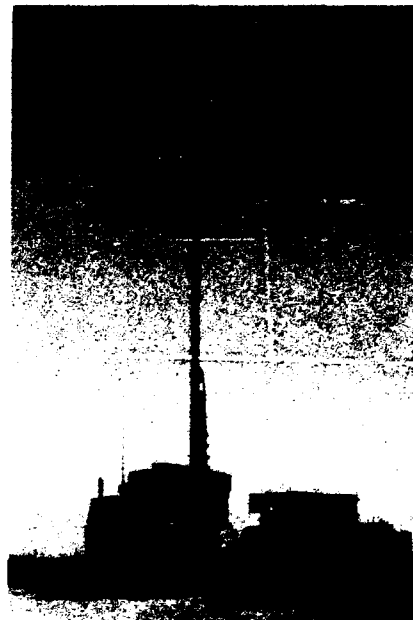
IMMC

AN/TSQ-138, TRAILBLAZER

PROJECT LEADER: Ms. Laurie Miller, DSN 229-6475  
COMM 703/349-6475

PE & LINE #: 3.58.85 (TCP): SSN: BZ9751

DESCRIPTION: TRAILBLAZER is a high capacity ground based communications intercept, processing, and direction finding system. It is mounted in a shelter carried on a M1015 Tracked Vehicle which tows a Trailer Support Unit (TSU). AAO is for five TRAILBLAZER systems to be assigned to each Heavy Division. A total of 68 systems were procured. The system is used to search for, intercept, record, identify, locate and report on radio signals in the HF/VHF/UHF frequency ranges. The system operates in a netted configuration and interoperates with the airborne QUICKFIX system for direction finding. Current block improvements include addition of: an enhanced self location capability; a digital temporary storage recorder; a Host Interface Unit for connectivity with TCAC, ASAS, and other intelligence and Electronic Warfare Systems. The planned block improvement program to evolve TRAILBLAZER into the GBCS-11 is required to keep the fielded operational capability current with the threat.



HISTORICAL BACKGROUND:

Jul 85 - AN/TSQ-138 Production contract awarded.  
Apr 88 - TRAILBLAZER/QUICKFIX interoperability demonstration.  
Aug 88 - FUE AN/TSQ-138.  
Sep 90 - Fielding completed; Materiel Change Program Initiated.  
Mar 93 - Transition to IMMC.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
TRAILBLAZER: PRODUCTION																												
FIELDING (PIPS & RESERVES)																												

REQUIREMENTS DOCUMENT: TRAILBLAZER ROC, Jun 84.

TYPE CLASSIFICATION: TRAILBLAZER, Standard, Sep 90: Type Classification Standard GBCS-H schedule 2QFY95.

TRAILBLAZER IS A HIGH CAPACITY GROUND BASED COMMUNICATIONS INTERCEPT, PROCESSING, AND DIRECTION FINDING SYSTEM.

IMMC

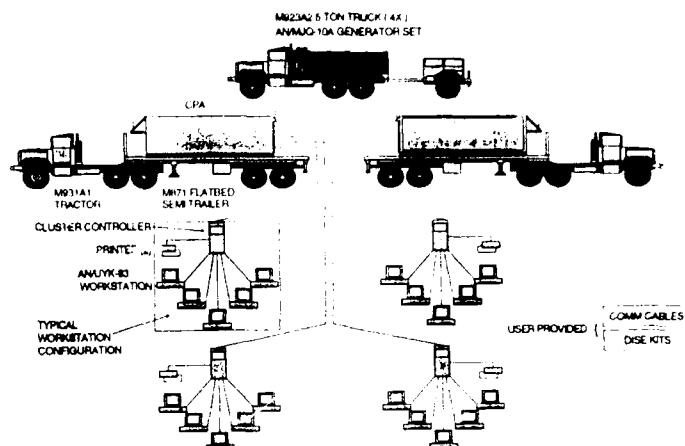
AN/TSQ-156/163, SINGLE SOURCE PROCESSOR - SIGINT

PRODUCT MANAGER: Mr. Wesley A. Simms, DSN 229-6514  
COMM 703/349-6514

PE & LINE #: 202091 W3120200PVR

**DESCRIPTION:** SSP-S is a tactically deployed automatic data processing system which provides automated support for the Technical Control and Analysis Element (TCAE) signals intelligence mission at Echelon Above Corps (EAC). The AN/TSQ-156 is comprised of two identical sets of sub-systems, each housed in a modified S-250 shelter mounted on M925 5-ton truck. Within each processing system are two separate data processing components, the Front End Processor (FEP) and Host Processor (VAX 4000). There can be up to twenty remote workstations (AN/UYK-83) connected. The AN/TSQ-163 is basically the same except it is configured in two ISO-20 shelters mounted on M871A2 semi-trailers. Applications software is functionally equivalent but configured to meet theater EAC TCAE requirements.

### SSP-S SYSTEM CONFIGURATION



### HISTORICAL BACKGROUND:

Oct 88 - Top Gallant delivered.  
Mar 90 - Top Graphic delivered.  
Jul 90 - Top Gable delivered.  
Oct 91 - Functional upgrade.  
Jun 92 - Rel 1.4 software upgrade program.  
Apr 93 - Rel 1.5 software upgrade program.

### EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1.5 SW UPGRADE				!																								
LEVEL II TRANSITION					!																							
COMMS UPGRADE CONTRACT						!																						
PRODUCTION CONTRACT							!																					
1.6 SW UPGRADE									!																			
MWO DELIVERY										!																		

REQUIREMENTS DOCUMENT: QRC 56 (86)

TYPE CLASSIFICATION: LP-U

AUTOMATED COMMUNICATION AND SIGINT ANALYST FUNCTION IN THE TECHNICAL CONTROL AND ANALYSIS CENTERS (TCAE) AT ECHOLON ABOVE CORPS (EAC)

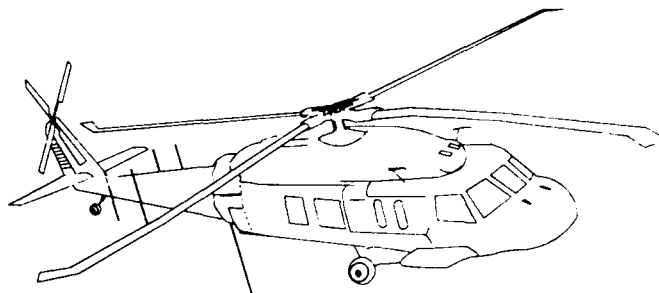
IMMC

EH-60A, QUICKFIX

PROJECT LEADER: Mr. Robert Huseink, DSN 229-6495  
COMM 703/349-6495

PE & LINE #: 6.47.20.DK12 SSN: AB3000

DESCRIPTION: QUICKFIX is a tactical heliborne communications intercept, direction finding, and jamming system. QUICKFIX consists of AN/ALQ-151 intercept and direction finding mission equipment, an AN/TLQ-17A communications jammer, and airborne self-protection equipment mounted in a modified uh-60A helicopter. The Army Acquisition Objective is three systems per Division and Army Cavalry Regiment (ACR). A total of 66 systems were procured. The system is used to search for, intercept, record, locate, report on and jam radio signals in the HF/VHF frequency ranges. QUICKFIX systems interoperate with each other and TRAILBLAZER in a netted configuration for direction finding purposes. Current materiel changes include development of a Host Interface Unit in TEAMMATE (HIU) for connectivity with Tactical Commanders Analysis Center (TCAC) and ASAS, and development of features to permit netting with TEAMMATE for direction finding. This will dramatically improve performance in Light Divisions and ACRs. Block improvements will evolve QUICKFIX into the AQF.



HISTORICAL BACKGROUND:

Apr 83 - EH-60A Prototype delivered.  
Sep 84 - Production contract award.  
Feb 88 - First Unit Equipment.  
Apr 88 - TRAILBLAZER/QUICKFIX Interoperability Demonstration.  
Mar 90 - Product completed.  
Mar 93 - Transition to Level II Management.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
QUICKFIX: FIELDING					!																							

REQUIREMENTS DOCUMENT: ROC, May 84.

TYPE CLASSIFICATION: Standard approved Nov 77.

QUICKFIX IS A TACTICAL HELIBORNE COMMUNICATIONS, INTERCEPT, DIRECTION FINDING, AND JAMMING SYSTEM.

SMD



SMD

AN/APN-209(V), RADAR ALTIMETER SET

PROJECT MANAGER: Mrs. Christa Artest, DSN 992-4481  
COMM 908/532-4481

PE & LINE #:

DESCRIPTION: The AN/APN-209(V) Radar Altimeter Set provides a continuous indication of altitude of an aircraft 0 to 1500 feet above the surface of the earth and the features upon it by transmitting a radar signal to the ground, receiving the reflected signal and indicates the altitude of the aircraft on the Receiver-Transmitter (RT) unit and a remote indicator. The Altimeter Set operates from an aircraft supply having a nominal voltage of 28 volts DC. In addition, the RT, Height Indicator displays analog altitude, digital altitude warnings. There is no planned replacement of the AN/APN-209(V). Production quantities are identified through FY95 to support helicopter platforms. A helicopter flying at night is classified as nonmission capable if there is no working Radar Altimeter on board.



HISTORICAL BACKGROUND:

- Nov 73 - Competitive contracts awarded to Honeywell.
- Jun 78 - Release of AN/APN-209.
- Apr 79 - Transition from AVRADA to CECOM.
- Jul 85 - Reliability improvement, reducing number of components.
- Jul 89 - Transition from DMM Level III to SMD Level II.
- Nov 90 - Antenna first competitive Production award.
- Sep 93 - Awarded first competitive buy for Indicator ID-1917.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
SYSTEM PRODUCTION																												
COMPETITIVE PRODUCTION - ANTENNA																												
VOICE WARNING MODIFICATION																												
ARMY ORGANIC DEPOT																												

REQUIREMENTS DOCUMENT: Materiel Needs Statement, DA approved 21 Mar 73.

TYPE CLASSIFICATION: Standard approved Jun 76.

AN/APN-209(V) PROVIDES AN ACCURATE INDICATION OF ALTITUDE OF AN AIRCRAFT OVER AN ALTITUDE OF 0 TO 1500 FEET. THE ALTIMETER IS REQUIRED IF THE AIRCRAFT IS FLYING AT NIGHT OR OVER FEATURELESS TERRAIN.

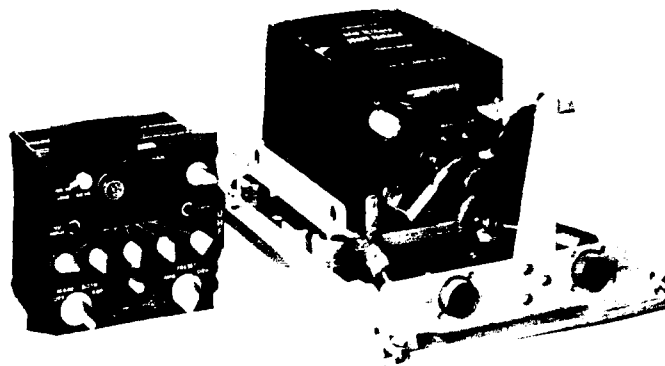
SMD

AN/ARC-164(V), HAVE QUICK II (HQ II)

PROJECT OFFICER: Mr. Chris Cardinale, DSN 992-1349  
COMM 908/532-1349

PE & LINE #: R13541

DESCRIPTION: The HAVE QUICK II radio set provides a 7,000 channel UHF tuneable receiver; an auxiliary guard receiver (nominally 243.000 megahertz) and 10-watt carrier transmitter for normal AM voice and Anti-Jam (AJ) Frequency Hopping communication mode. HAVE QUICK II radio set provides additional AJ improvements and features from the original HAVE QUICK radio.



#### HISTORICAL BACKGROUND:

Mar 82 - JCS directs all services to use HQ II for Electronic Counter-Countermeasure (ECCM) for UHF band.  
Apr 89 - SMD directed to take HQ II lead.  
Feb 90 - Materiel Change for HQ II implementation approved by CG, CECOM.  
Jun 92 - First HQ I to HQ II modification kit applied.

#### EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
TECHNICAL MANUALS AND TRAINING									!																			
MODIFICATION KIT HQ I TO HQ II									!											!								
FIELDING TIMING SYSTEMS GROUND									!											!								

REQUIREMENTS DOCUMENT: O&O Plan for Army Aviation UHF Radios, Nov 91.

TYPE CLASSIFICATION: Standard A approved 1987.

HQ II PROVIDES THE ARMY THE ABILITY TO COMMUNICATE WITH THE AIR FORCE, NAVY, AND NATO IN UHF-AM MODE, THE COMMUNICATIONS BAND FOR TACTICAL AIR OPERATIONS.

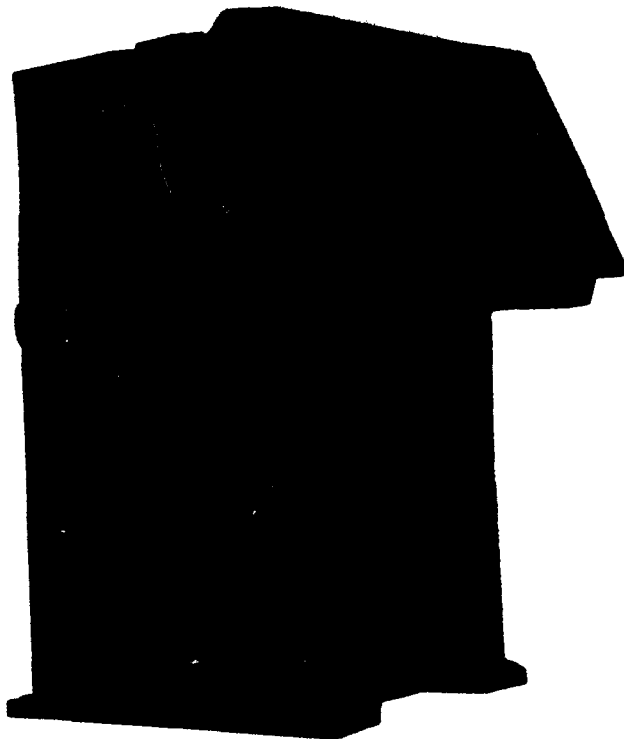
SMD

AN/ASC-15B, COMMUNICATIONS CENTRAL-CONSOLE

PROJECT OFFICER: Mr. Anthnoy Noyalis, DSN 992-5271  
COMM 908/532-5271

LIN & BLIN #: C59313 AA0710

DESCRIPTION: The AN/ASC-15B console functions as an air-borne or ground command post providing tactical voice/data communications in both secure and nonsecure modes. AN/ASC-15B is interfaced with the aircraft or ground auxiliary equipment to function as a secure/nonsecure automatic retransmission station and satellite communications command post and to provide channel scanning, intercommunication facilities for up to ten users and communication management for up to four operators. AN/ASC-15B provides AM and FM communications in the applicable HF, VHF, and UHF frequency ranges and provides NATO and Tri-Service interoperability during all types of military operations.



HISTORICAL BACKGROUND:

Jul 87 - Air Worthiness Qualification.  
Jul 87-Sep 87 - User Testing.  
Aug 87-Sep 88 - Contract Modifications for an additional 26 systems (total 34 systems).  
Sep 90-Jan 91 - Unpriced contract awards for 10 systems to support Desert Storm.  
Jun 92 - Contract award - four systems.  
Sep 92 - Contract award - seven systems.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99				
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
FIELDINGS:																													
10 MTN DIV, FT. DRUM						!																							
1 CAV DIV, FT. HOOD						!																							
4 MECH DIV, FT. CARSON						!																							
101 AASLT DIV, FT. CAMPBELL						!																							
1 CAV DIV, FT. HOOD						!																							

REQUIREMENTS DOCUMENT: ROC, March 1991.

TYPE CLASSIFICATION: Limited Production - Urgent approved.

AN/ASC-15B PROVIDES BATTEFIELD COMMANDERS WITH THE C2 CAPABILITY FOR JOINT SERVICE OPERATIONS TO DIRECTLY CONTROL AND INFLUENCE THE BATTLE.

SMD

AN/FSC-92 AIR TRAFFIC CONTROL COMMUNICATIONS SWITCHING  
SYSTEM

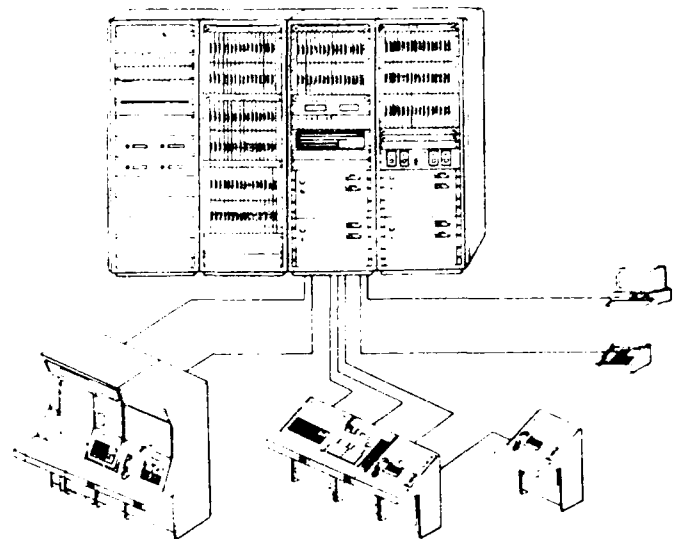
PROJECT MANAGER: Ms. Nancy L. Brady, DSN 992-5271  
COMM 908/5271

PRODUCT MANAGER: PM ATC 693-2003

PE & LINE #:

DESCRIPTION: The Air Traffic Control Communications Switching System AN/FSC-92(V) is a distributed microprocessor controlled system which integrates radio, intercom, and landline (telephone) communications. The primary purpose of the system is to establish air traffic control communications in those facilities where it is installed. The system consists of a select number of operator consoles and rackmounted central (switching/line termination) equipment.

The radiophone feature provides the required interfaces to establish radio communications between the operators and pilots in aircraft. The intercom provides indirect access two-way audio communications between the operator consoles. The landline communications enable local operators to talk to operators at remote locations via the telephone. The system also features point-to-point access buttons which provide immediate operator-to-operator communications.



HISTORICAL BACKGROUND:

Dec 81 - Contract award, Denro Labs, Inc., Qty. 45.  
Feb 85 - First Installation at Libby Army Airfield, Fort Huachuca, AZ.  
Sep 92 - AN/FSC-92 transitioned to SMD for Program Management.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ILLESHEIM, GERMANY FIELDING					!																							
TRANSITION TO LEVEL III									!																			

REQUIREMENTS DOCUMENT:

TYPE CLASSIFICATION: STDLCC-A, LIN A27874, dated May 85.

THE AN/FSC-92 PROVIDES RADIO, INTERCOM AND FLIGHT FOLLOWING CAPABILITIES BETWEEN OPERATORS AND PILOTS IN AIRCRAFT.

SMD

AN/GRC-193, IMPROVED HIGH FREQUENCY RADIO SET

PROJECT OFFICER: Mr. Mario Ambrosio, DSN 992-8941  
COMM 908/532-8941

PE & LINE #: SSN: BB1600

DESCRIPTION: The AN/GRC-193 vehicular radio set provides secure voice and data C3 capability for tactical units in compatible AM, SSB, CW, and DATA modes at medium to high power (100-400 watts). AN/GRC-193 was produced in three configurations: AN/GRC-193; AN/GRC-193A; and AN/GRC-193B. The radios are secured with the KY-65 (voice) or KG-84 (data) and feature automatic antenna tuning. Frequency range is 2-30 megahertz providing 280,000 channels in 100 hertz increments. Other features include build-in-test capabilities, reflect power protection, and remote operation by wireline up to two kilometers. The radio interfaces with the AN/VIC-1 Vehicle Intercom System and is compatible with the AN/UGC-74 at 300 words per minute operated for voice and MOS 31K for teletype. AN/GRC-193B has all the above features with the addition of the short term anti-jam (STAJ) frequency hopping capability.

NY-4002/  
GRC-193  
ELECTRICAL  
EQUIPMENT

HISTORICAL BACKGROUND:

Jul 81 - USA Program Objective Memorandum established.  
Dec 81 - Non-Developmental Item decision approved.  
May 85 - Follow-On Evaluation.  
Sep 85 - FY85 Production contract award.  
Nov 85 - Official transfer of program responsibility to PM, SINGARS.  
Dec 86 - First Unit Equipped.

REQUIREMENTS DOCUMENT: ROC DA approved 30 Nov 81.

TYPE CLASSIFICATION: Standard A approved Jun 83; BOIP approved 22 Oct 86.

AN/GRC-193 IS A MEDIUM TO HIGH POWER VEHICULAR RADIO SET TO PROVIDE SECURE VOICE (KY-65) DATA C3 IN THE COMPATIBLE AM, SSB, CW, AND DATA MODES WITH AUTOMATIC ANTENNA TUNING AND 280,000 CHANNELS IN 100 HERTZ INCREMENTS.

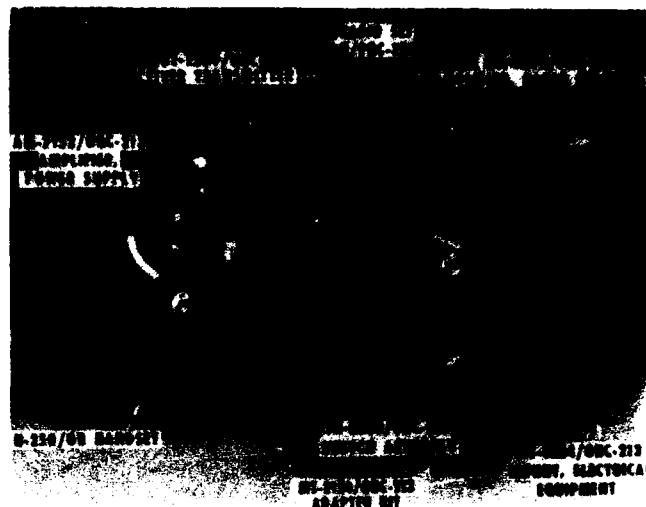
SMD

AN/GRC-213, IMPROVED HIGH FREQUENCY RADIO SET

PROJECT OFFICER: Mr. Mario Ambrosio, DSN 992-8941  
COMM 908/532-8941

PE & LINE #: SSN: BB1802

DESCRIPTION: The AN/GRC-213, Improved High Frequency Radio Set (IHFR) provides a vehicular mounting capability as well as rapid removal for manpack only operations. It is a Low Power (20 watt) Manpack/Vehicular radio set composed of an AN/PRC-104A Manpack radio with all the necessary ancillary items. AN/GRC-213 will provide secure voice and data communications when used with the KY-65 voice, KY-84 data or future COMSEC equipments, in the SSB, compatible AM, CW and DATA modes. AN/GRC-213 is user operated and about as complex to use as the current family of VHF/FM radios. The radio features include automatic antenna tuning, 2-30 megahertz frequency range with 280,000 channels in 100 hertz increments, built in test features and receive squelch. The radio interfaces with the vehicular intercom system AN/VIC-1 and provides FM retransmission capability. All IHFR radios will provide secure voice communications with KY-65 or future COMSEC equipment.



HISTORICAL BACKGROUND:

Jul 81 - USA Program Objective Memorandum established.  
Dec 81 - Non-Developmental Item decision approved.  
May 85 - Follow-On-Evaluation.  
Nov 85 - Official transfer of program responsibility to PM, SINCGARS.  
Dec 86 - First Unit Equipped.

REQUIREMENTS DOCUMENT: ROC DA approved, 30 Nov 81.

TYPE CLASSIFICATION: BOIP approved, 22 Oct 86, Standard A.

AN/GRC-213, IHFR SET IS A LOW POWER MANPACK/VEHICULAR MOUNTED RADIO SET TO PROVIDE SECURE VOICE (KY-65) AND DATA C3 (KY-84). IT HAS AUTOMATIC ANTENNA TUNING, 280,000 CHANNELS IN 100 HERTZ INCREMENTS AND RETRANSMISSION CAPABILITY.

SMD

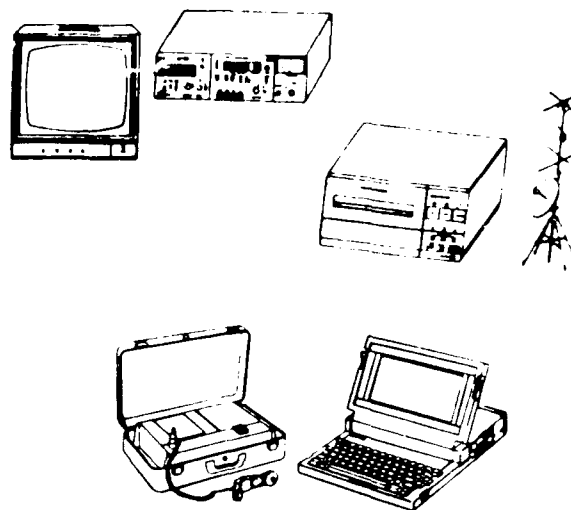
AN/GRQ-27 AND AN/GRQ-27(V)2, GOLDWING

PROJECT OFFICER: Mr. Michael Travisano, DSN 992-5108  
COMM 908/532-5108

PE & LINE #: Z25282 SSN: W5990000GCH

DESCRIPTION: GOLDWING provides dedicated IEW communications capability required by Air Force weather teams supporting tactical Army operations. GOLDWING is a low density, secure data communications system employing 4F FSK packet radio in the 1.6 to 30 megahertz frequency band. It operates at speeds up to 1200 baud and is designed to support meteorological operations. GOLDWING is a FORSCOM NDI procurement. It is scheduled to officially replace RATT rigs on Air Force weather team modified Tables of Organization and Equipment in the FY92/93 timeframe.

GOLDWING SYSTEM II AN/GRQ-27(V)2 augments the capabilities of the current (V)1 system to include support for automatic weather bulletin processing, automatic weather watch, reception of weather data.



HISTORIC BACKGROUND:

- FY87 - Purchase of initial GOLDWING IEW communication system.
- FY88 - Interface of GOLDWING and UAWS; Purchase of WRAASE Satellite Receiver Systems.
- Sep 88 - Issued 50 systems to the First Weather Squadron, Fort Gillem with spare and communications technical manuals.
- FY89 - Merger of Air Force Quick Reaction and Army GOLDWING Programs.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
TECHNICAL MANUALS DELIVERY	!																											
TYPE CLASSIFICATION					!																							
SPARES DELIVERY						!																						
DEPOT SUPPORT							!																					
TRANSITION TO LEVEL III								!																				

REQUIREMENTS DOCUMENT: Awaiting O&O approval.

TYPE CLASSIFICATION: Standard B planned.

GOLDWING PROVIDES DEDICATED COMMUNICATIONS CAPABILITY REQUIRED BY AIR FORCE WEATHER TEAMS SUPPORTING TACTICAL ARMY OPERATIONS.

SMD

AN/GSG-10, TACFIRE

TACFIRE  
MIP

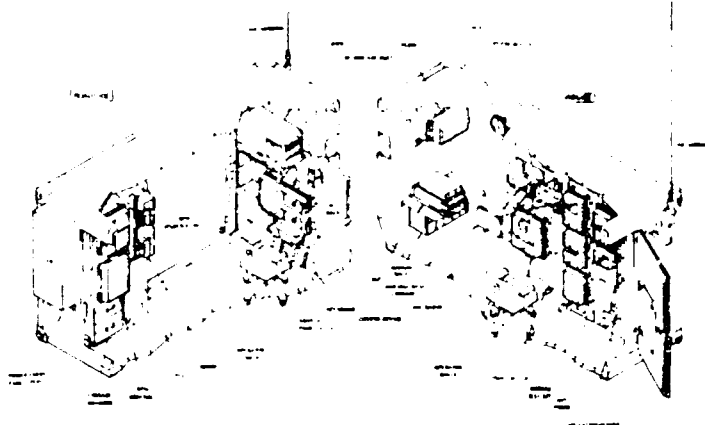
## SINGLE SHELTER DIVARTY



PROJECT OFFICER: Mr. Ed. Marcinkiewicz, OSN 992-6055  
COMM 908/532-6055

PE & LINE #: F55750 (CORPS DIVARTY)  
F55818 (DIVISION DIVARTY)  
F83626 (BATTALION)

DESCRIPTION: TACFIRE is composed of computers and remote devices linked by digital communications using existing radio and wire communications equipment. TACFIRE automates selected field artillery command and control functions to provide efficient management of fire support resources.



HISTORICAL BACKGROUND: The last TACFIRE fielding was completed in 1987. Installations of the two major modifications (Upgraded Counterfire Equipment and CP-1822) were completed in 1990. The TACFIRE/MSE interface device is currently being procured and fielded. Replacement of TACFIRE by IFSAS is scheduled to begin in 1994.

### EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
TAC/MSE ID AWARD					!																							
TAC/MSE ID FIELDING									!																			
IFSAS FIELDINGS BEGIN REPLACING TACFIRE																!												

REQUIREMENTS DOCUMENT: QMR, Mar 66.

TYPE CLASSIFICATION: Standard approved Oct 78.

TACFIRE AUTOMATES SELECTED FIELD ARTILLERY COMMAND AND CONTROL FUNCTIONS TO PROVIDE EFFICIENT MANAGEMENT OF FIRE SUPPORT RESOURCES.



SMD

AN/MYQ-4, DECENTRALIZED AUTOMATED SERVICE SUPPORT SYSTEM  
(DAS-3)

PROJECT OFFICER: Joan McDonald, DSN 992-6052  
COMM 908/532-6052

PE & LINE #: D/8075

DESCRIPTION: The DAS-3 computer system was developed to provide decentralized automated supply and maintenance management support suitable for use by the army in the field. The field systems consist of automatic data processing equipment housed in mobile 35 foot air conditioned vans powered by standard military generators and/or commercial power. The DAS-3 environment is any of the non-divisional Direct Support Unit/General Support Units (DSU/GSU) of supply and maintenance management. DAS-3 is the ADPE interface between the direct support level and intermediate level of supply. DAS-3 is not field programmable. It utilizes functional application programs developed at central CONUS facilities and is suitable for worldwide deployment. A total of 203 systems were fielded from Dec 80 to Sep 83. AN/MYQ-4 has been displaced by DS4 Desktop computer.



HISTORICAL BACKGROUND:

- Dec 80 - First unit fielded (without supportability).
- Oct 87 - Transition of DAS-3 from TACMIS to Logistics Support Center, ISEC (renamed ISMA), Ft Monmouth.
- Nov 87 - Draft DOD Inspector General report of Honeywell spares contract overpricing was received at CECOM for comment.
- Sep 90 - Service and Maintenance contract awarded to ICT.
- Dec 91 - Transition of DAS-3 Program from ISMA to CECOM.
- Mar 93 - AN/MYQ-4 displaced by DS4 Desktop.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1				2				3				4				1				2			
DISPLACEMENT BY DS4 DESKTOP	1																											

REQUIREMENTS DOCUMENT: ROC, 11 Mar 77, TRADOC ACN 29055; Revised by Logistics and Soldier Support Center, 22 Sep 80.

TYPE CLASSIFICATION: Standard approved Sep 80.

DAS-3 WAS DEVELOPED TO DECENTRALIZED AUTOMATED SERVICE SUPPORT SUITABLE FOR USE BY THE ARMY IN THE FIELD.

SMD

AN/MYQ-4A, DECENTRALIZED AUTOMATED SERVICE SUPPORT SYSTEM  
(DIVISION/CORPS) DAS-3 (D/C)

PROJECT OFFICER: Joan McDonald, DSN 992-6052  
COMM 908/532-6052

PE & LINE #: D 78325

DESCRIPTION: The DAS-3 (D/C) was designed to enhance the DAS-3 (AN/MYQ-4). The systems are similar, but the AN/MYQ-4A has the following distinguishing changes: additional ADP devices, communications interface section, and provisions for a modular collective protection equipment unit. DAS-3 (D/C) is composed of a data processing center housed in a 35 foot, 10-ton semi-trailer van (XM971), an administrative center housed in a 5-ton expandable van, and a dual generator mobile power plant. DAS-3 (D/C) is composed of the following subsystems: ADP Subsystem, AC Power Subsystem, Environmental Subsystem, Communications Subsystem, Remote Subsystem, semi-trailer van unit, expandable van, and power plant. Majority of DAS-3's have been displaced by the D54 Desktop computer. Only remaining STAMIS's supported by the DAS3 are DASPS-E and SAAS.



HISTORICAL BACKGROUND:

Apr 84 - Initial Operational Capability.  
Oct 84 - Honeywell "BOA" under investigation due to suspected overpricing for spare parts.  
Oct 87 - Transition of DAS-3(D/C) from TACMIS to Logistics Support Center, ISEC (renamed ISMA), Ft Monmouth.  
Sep 90 - Service and Maintenance contract awarded to ICT.  
Dec 91 - Transition of DAS-3 from ISMA to CECOM.  
Mar 93 - DAS-3 displacement by DS4 Desktop computer.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
AWARD OF NEW MAINTENANCE CONTRACT																												
DISPLACEMENT OF DASPS-E STAMIS BY WWPS																												
DISPLACEMENT OF SAAS STAMIS BY SAAS-MOD																												

REQUIREMENTS DOCUMENT: ROC, Sep 82; ROC revised DAS-3 ROC, 22 Sep 83.

TYPE CLASSIFICATION: Standard approved 27 Aug 84.

DAS-3 (D/C), AN/MYQ-4A ENHANCES THE DAS-3, AN/MYQ-4 BY PROVIDING ADDITIONAL ADP DEVICES.

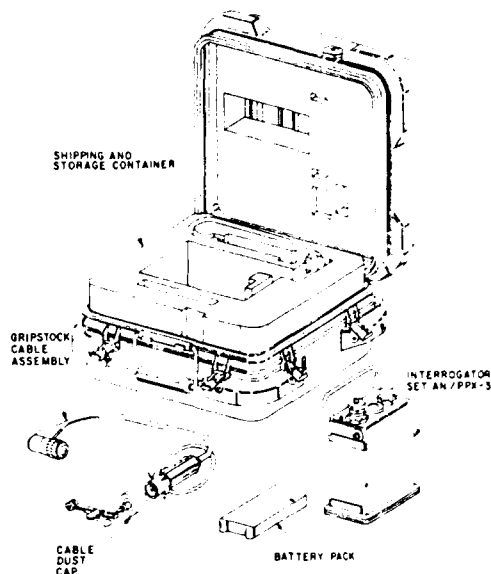
SMD

AN/PPX-3, INTERROGATOR SET

PRODUCT MANAGER: Mr. Rene Acosta, DSN 992-8941  
COMM 908/532-8941

PE & LINE #: J98501      SSN: C1960000LST

DESCRIPTION: Man portable, ground to air IFF interrogator. Transmits a coded interrogation and receives and processes coded replies. Capable of mode 4 operation compatible with transponders in Mark X and Mark XII systems. It is worn as a belt pack connected to weapon by plug in cable.



HISTORICAL BACKGROUND:

Jan 93 - Transitioned from Level III to Level II.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
INITIATE SCREEN & REPAIR PGM WITH TELEDYNE									!																			

REQUIREMENTS DOCUMENT:

TYPE CLASSIFICATION: Standard A approved Sep 82.

AN/PPX-3 IS AN INTERROGATOR FRIEND OR FOE (IFF) SYSTEM.

SMD

AN/PRC-104, IMPROVED HIGH FREQUENCY RADIO SET

PROJECT OFFICER: Mr. Mario Ambrosio, DSN 992-8941  
COMM 908/544-8941

PE & LINE #: SSN: BG1801

DESCRIPTION: The low power (20 watt) Improved High Frequency Radio Set (IHFR), AN/PRC-104 provides single sideband command and control communications for tactical units in the compatible AM, SSB, CW and Data modes. AN/PRC-104 is user operated and is about as complex to use as the current family of VHF FM radios. The radio utilizes either a non-rechargeable BA-5590 Lithium battery or a rechargeable BB-590 NICAD battery. The radio features automatic antenna tuning, operates in the 2-30 MHz frequency range, maximum bandwidth 3 KHz, 280,000 channels in 100 Hz increments, and built-in test features. All IHFR radios will provide secure voice communications with KY-65 or future COMSEC equipment. AN/PRC-104B has all above features with addition of STAJ frequency hopping capability.

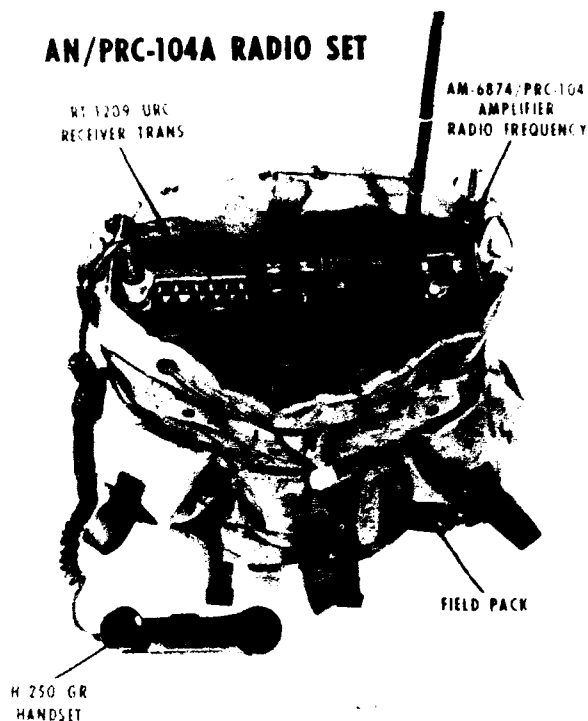
HISTORICAL BACKGROUND:

Jul 81 - USA Program Objective Memorandum established.  
Dec 81 - Non-Developmental Item decision approved.  
Mar 82 - BOIP/QQPRI approved.  
Jun 85 - Follow-On Evaluation.  
Nov 85 - Official transfer of program responsibility to PM, SINCGARS; Materiel Release.  
Mar 87 - First Unit Equipped.

REQUIREMENTS DOCUMENT: ROC, 30 Nov 81.

TYPE CLASSIFICATION: Standard A approved Jun 83.

**AN/PRC-104A RADIO SET**



AN/PRC-104 IS A LOW POWER, IMPROVED HIGH FREQUENCY RADIO SET TO PROVIDE SINGLE SIDE BAND COMMAND AND CONTROL COMMUNICATIONS FOR TACTICAL UNITS IN THE COMPATIBLE AM, SSB, CW AND DATA MODES.

SMD

AN/PVS-4, INDIVIDUAL SERVED WEAPON SIGHT

PROJECT LEADER: Mr. Anthony Anania, DSN 992-5271  
COMM 908-532-5271

PE & LINE #: SSN: K41500

DESCRIPTION: The AN/PVS-4 provides passive sighting and viewing of targets using second generation image intensifier techniques. When mounted on individual weapons, the scope will provide the capability for delivery of accurately aimed fire during hours of darkness. The system is easily installed and removed from the weapon using suitably designed brackets which require no modification to the weapon. A protective objective daylight cover provides the capability for daylight boresighting of the weapon. AN/PVS-4 is primarily designed for use with the M14 and M16 Rifles, M60 Machine Gun, M249 Squad Automatic Weapon, M72A1 Rocket Launcher and M203 Grenade Launcher. The system is supplied with a suitable shipping case which protects the system. The sight can be used in the hand-held mode for night surveillance. Fielding is two per infantry squad.



HISTORICAL BACKGROUND:

1976 - First Production contract awarded for 47,074 units.  
1978 - First Unit Equipped.  
1985-1989 - Total of 16,927 devices produced and deployed to Army units.  
1990-1992 - OMNIBUS II award of 24,046 devices for deployment to Army units.  
4QFY92 - Transition management from PEO IEW, PM NVED to CECOM, SMD.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
OMNIBUS II PRODUCTION																												

REQUIREMENTS DOCUMENT:

TYPE CLASSIFICATION: Standard approved FY77.

AN/PVS-4 PROVIDES PASSIVE SIGHTING AND VIEWING OF TARGETS DURING HOURS OF DARKNESS USING SECOND GENERATION IMAGE INTENSIFIER TECHNIQUES.

SMD

AN/TMQ-31, METEOROLOGICAL DATA SYSTEM (MDS)

PROJECT OFFICER: Mr. Mario Ambrosio, DSN 992-8941  
COMM 908/532-8941

PE & LINE #: SSN: K27800

DESCRIPTION: The MDS is a mobile, automated meteorological data acquisition and processing system. This is a stand alone system that collects meteorological data for artillery fire support. Two MDS are used to support each Division Artillery Headquarters Battery and one MDS supports each separate Brigade. MDS automatically tracks a balloon-borne meteorological radiosonde as it ascends the atmosphere; receives the telemetered signals of temperature, relative humidity, pressure, and navigation data; measures elevation and azimuth angles to the radiosondes; automatically converts and processes the data; and computes meteorological data for immediate transmission to the user via wire or radio. Two modes of operation are provided: Radio Direction Finding (RDF) mode at 1690 megahertz and HAVAID mode at 400 megahertz.



HISTORICAL BACKGROUND:

Sep 83 - Production Decision approval.  
Aug 84 - Production contract award (55 units).  
May 88 - Full Release.  
May 93 - VECF Kits installation completed.  
Jan 92 - Completed fieldings to Army and Marine Corps.  
Oct 92 - Transition management from PEO IEW, PM EW/RSTA to CECOM, SMD.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
TRANSFER MDS TO NG & AR						!				!																		

REQUIREMENTS DOCUMENT: ROC Jun 79, CARDS 0449.

TYPE CLASSIFICATION: Standard approved Sep 83.

AN/TMQ-31 IS A MOBILE, VERSATILE, AUTOMATED METEOROLOGICAL DATA ACQUISITION AND PROCESSING SYSTEM.

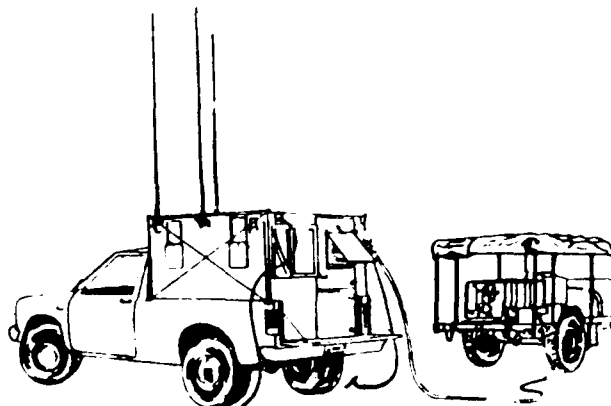
SMD

AN/TRQ-37, TACFIX

PROJECT OFFICER: Mr. Michael A. Travisano, DSN 992-5108  
COMM 908/532-5108

PE & LINE #: LIN R38883

DESCRIPTION: TACFIX is a shelter mounted direction finder system. It is used by Communications Electronics Warfare Intelligence (CEWI) units. This equipment is designed with two direction finder (DF) receivers, a quick erecting DF antenna/mast assembly, and a DF processor. TACFIX provides Line-of-Bearing data only and must be manually controlled to provide true DF.



HISTORICAL BACKGROUND:

- Sep 79 - Purchased by FORSCOM for readiness training. A total of 35 original systems were purchased without life-cycle ILS.
- Jan 84 - CECOM tasked by DA to support FORSCOM by developing ILS.
- Jun 86 - Spare and repair parts in place.
- Sep 87 - Antenna design change to install in shelter.
- Apr 89 - Procurement data package submitted to upgrade system capabilities.
- Jun 89 - Full depot support established at TOAD.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
DELIVERY OF ADDITIONAL SYSTEMS AND SPARES																												
TRANSITION TO CECOM LEVEL III MANAGEMENT																												

REQUIREMENTS DOCUMENT: HQDA message authoriz ' procurement 231742Z Nov 83.

TYPE CLASSIFICATION: Standard approved Dec 89.

TACFIX IS A SHELTER MOUNTED DIRECTION FINDER SYSTEM.

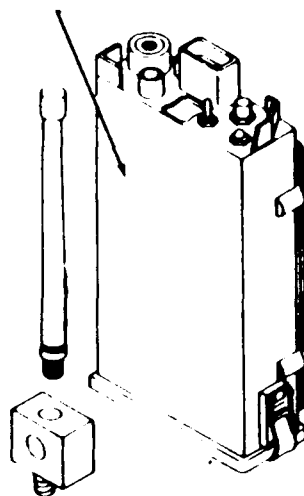
SMD

AN/TRS-2(V), PLATOON EARLY WARNING SYSTEM (PEWS)

PROJECT OFFICER: Ms. Rosemarie LaMacchia, DSN 992-6052  
COMM 908/532-6052

PE & LINE #: P06148

DESCRIPTION: An operational AN/TRS-2(V) consists of ten detector anti-intrusion devices, two radio receivers, two interface wire links and other accessories packaged in two carrying bags. The system will operate in a variety of different types of terrain and under extreme temperature and climatic conditions with a very low false alarm rate.



HISTORICAL BACKGROUND:

Apr 76 - Milestone Decision Review.  
Jul 78 - Contract award.  
Sep 80 - Test.  
Dec 80 - First Unit Equipped.  
Mar 81 - Initial Operational Capability.  
Sep 92 - Transition.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
TRANSITION TO LEVEL III					!																							

REQUIREMENTS DOCUMENT: Initial ROC approved, 26 Nov 62; Final ROC approved, 19 Oct 72.

TYPE CLASSIFICATION: Standard A approved Apr 78.

AN/TRS-2(V) IS AN OPERATIONAL SYSTEM CONSISTING OF TEN DETECTORS, TWO RADIO RECEIVERS, TWO INTERFACE WIRE LINKS AND OTHER ACCESSORIES PACKAGED IN TWO CARRYING BAGS.



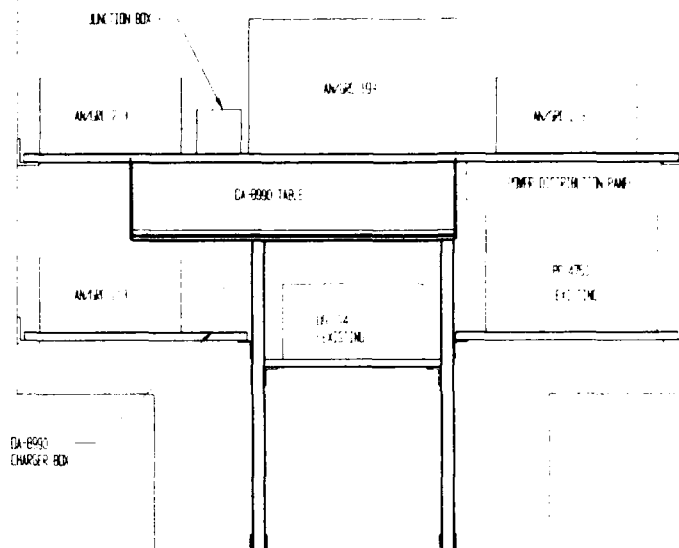
SMD

AN/TSC-128 LRSU-BRS

PROJECT MANAGER: Mr. Charles Penta, DSN 992-2940  
COMM 908/532-2940

PE & LINE #:

DESCRIPTION: The AN/TSC-128 Long Range Surveillance Unit Base Radio Station (LRSU-BRS) is a communications system providing LRSU's the ability to pass Human Intelligence (HUMINT) and Command and Control (C2) information between LRSU teams and their headquarters. Current documentation on the system is being updated/corrected to allow the system to be designated as a major item for accounting purposes. However, the system will only be procurable as an Installation Kit (IK) from CECOM along with additional equipment (shelters, radios, teletypes) already in the possession of the gaining units.



HISTORICAL BACKGROUND:

Aug 89 - Start of interim program under SOF Control.  
Oct 89 - HQDA authorizes AN/TSC-128 interim use.  
Mar 90 - First prototype installed at Fort Benning, GA.  
Jan 91 - First production kits fielded to USAREUR.  
Apr 91 - Program control transferred to RDEC.  
Apr 93 - Program control transferred to SMD.

FRONT VIEW  
EQUIPMENT SHELVES

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99							
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
CORRECTION OF DOCUMENTATION					!																											
(BOIP, NSN, LIN) OBTAINED									!_!																							

REQUIREMENTS DOCUMENT: Limited Procurement - Urgent.

TYPE CLASSIFICATION: Limited Procurement - Approved Jan 90 HQDA.

AN/TSC-128 IS A COMMUNICATIONS SYSTEM WITH THE ABILITY TO PASS HUMMAN INTELLIGENCE AND COMMAND AND CONTROL INFORMATION BETWEEN LRSU TEAMS AND HQ.

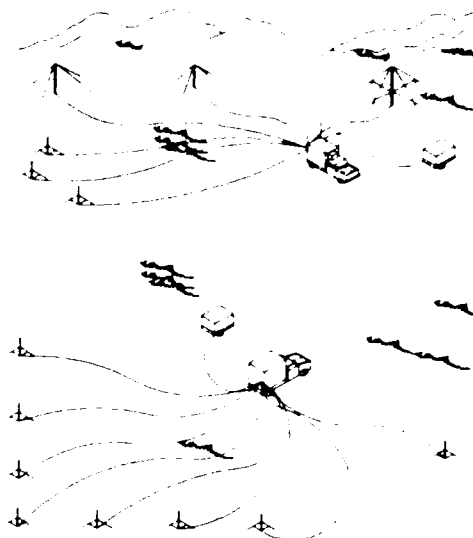
SMD

AN/TSQ-164, DRAGONFIX

PROJECT OFFICER: Mr. Michael Travisano, DSN 992-5108  
COMM 908/532-5108

PE & LINE #: LIN Z22323 SSN: W5080000GWA  
LIN Z56548 W5070000GWA

DESCRIPTION: DRAGONFIX is a FORSCOM, NDI "GO TO WAR" system that performs high frequency direction finding, intercept and collection. DRAGONFIX system is designed to automatically detect and permit intercept, analysis and reporting of emitter operating in .5-30 megahertz range by means of azimuth triangulation. DRAGONFIX is composed of three sets of shelters, each set consisting of two S-250 shelters (direction finder (DF) collection and analysis communications). Each shelter has two operators. The operators receive taskings. The sheltered equipment detects, collects, and determines azimuth and evaluates angle of target signals; determines height of ionosphere; calculates location, and prepares/issues reports.



HISTORICAL BACKGROUND:

Original contract production of one set was tested, accepted and delivered to the Government. Improvements to the set are ongoing for new delivery date 3QFY93.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
TECHNICAL MANUAL DELIVERY	!																											
DEPOT SUPPORT					!																							
TRANSITION TO LEVEL III									!																			

REQUIREMENTS DOCUMENT: Operational Needs Statement, DA approved.

TYPE CLASSIFICATION:

DRAGONFIX IS A FORSCOM, NDI "GO TO WAR" SYSTEM THAT PERFORMS HIGH FREQUENCY DIRECTION FINDING, INTERCEPT AND COLLECTION.

SMD

AN/TVS-5, CREW SERVED WEAPON SIGHT

PROJECT OFFICER: Mr. Anthony Anania, DSN 992-5271  
COMM 908/532-5271

PE & LINE #: SSN: K3850

DESCRIPTION: The AN/TVS-5 provides sighting and viewing of targets using second generation image intensifier techniques. When mounted on crew served weapons, the scope will provide the capability for delivery of accurately aimed fire during hours of darkness. AN/TVS-5 is primarily designed for use with the M2 and M60 Machine Gun and the 106mm Recoilless Rifle. The system is supplied with a suitable shipping case which protects the system. The sight can be used in the handheld mode for night surveillance by individual soldiers, commanders and reconnaissance elements. Fielding to Army units is complete. The Army is no longer procuring the second generation AN/TVS-5 weapon sight. Supplement/replacement system is the AN/PAS-13, Thermal Weapon Sight (TWS). However, we will continue to produce this device in support of other U.S. requirements, predominantly the Marine Corps.



HISTORICAL BACKGROUND:

1976 - First Production contract award.  
1978 - First Unit Equipped.  
1985-1989 - OMNIBUS Multi-year contract in effect for Marine Corps requirements (856 units).  
1987-1990 - MINIBUS Multi-year contract in effect for other DOD requirements.  
Feb 1991 - Contract award for Operation Desert Storm requirements (2138 units).  
Sep 92 - Transition from PM, NVEO to CECOM Level II Management.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
FOREIGN MILITARY SALES		! _____ !																										

REQUIREMENTS DOCUMENT:

TYPE CLASSIFICATION: Standard approved FY77.

AN/TVS-5 PROVIDES SIGHTING AND VIEWING USING SECOND GENERATION IMAGE INTENSIFIER TECHNIQUES AND PROVIDES THE CAPABILITY OF ACCURATELY AIMED FIRE DURING HOURS OF DARKNESS.

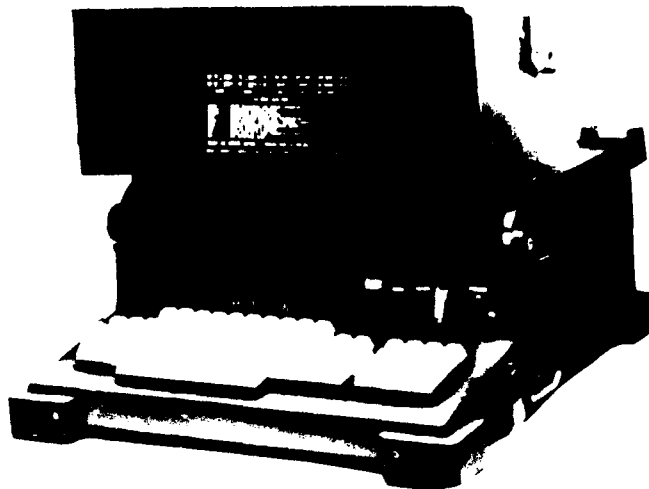
SMU

AN/UGC-144, COMMUNICATIONS TERMINAL

PROJECT OFFICER: Mr. George Ambrosia, DSN 992-4605  
COMM 908/532-4605

PE & LINE #: 1X428010.A1905028

DESCRIPTION: The AN/UGC-144 is a formal record traffic communications terminal capable of storing, editing, displaying, transmitting, receiving and printing record traffic in the R (General Service) and Y (Intelligence) communities at all echelons of a tactical communications system. The equipment is user owned and operated.



HISTORICAL BACKGROUND:

Jun 90 - 1st fielding.  
Jul 90 - Materiel Release.  
Oct 90 - VECF Auxiliary Storage Cassette approved.  
Apr 92 - Final Logistics Support Concept (FLSC) on contract.  
May 93 - Transitioned to Level II Management.

REQUIREMENTS DOCUMENT: NDI ROC approved by HQDA Jul 86.

TYPE CLASSIFICATION: Standard approved Oct 86.

AN/UGC 144 COMMUNICATIONS TERMINAL IS A MODERN COMMUNICATIONS TERMINAL EMPLOYING SOLID STATE ELECTRONICS AND MICRO-PROCESSOR CONTROL OF FUNCTIONS.

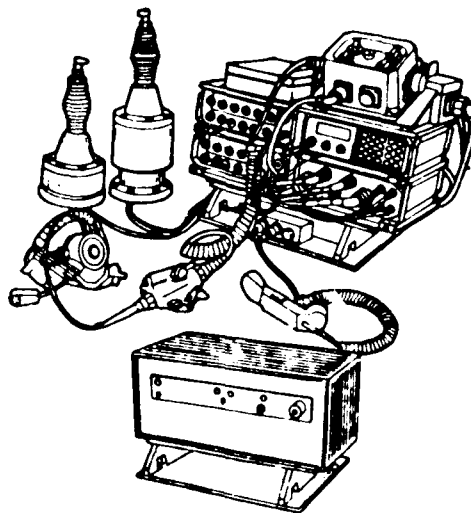
SMD

AN/ULQ-19(V), SIGNAL JAMMER RACJAM

PROJECT OFFICER: Mr. Michael A. Travisano, DSN 992-5108  
COMM 908/532-5108

PE & LINE #: LIN Z63802 (RACJAM)  
LIN Z33365 (HACJ)

DESCRIPTION: AN/ULQ-19(V) RACJAM is a fully automatic, mobile, responsive Very High Frequency (VHF) jammer capable of automatically detecting and jamming signal activity on any one of 16 pre-selected target channels. The system can be programmed to scan several frequencies and while disrupting non-friendly transmissions. AN/ULQ-19(V)3 HAC-J is the helicopter borne version of the jammer.



HISTORICAL BACKGROUND:

- Dec 83 - Purchased by FORSCOM for readiness training, total of 20 original systems purchased without life cycle support.
- Jan 84 - CECOM tasked by DA to support FORSCOM by developing ILS.
- Sep 84 - ILS management team established.
- Mar 86 - Spare and repair parts list submitted to contractor for price quotes.
- Mar 90 - Contract for Heliborne Applique Communications-Jammer (HAC-J) established.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1				1				1				1				1				1			
TYPE CLASSIFICATION	!																											
DELIVERY OF HAC-J FULL PROVISIONING PARTS LIST	!																											
TRANSITION TO LEVEL III MANAGEMENT					!																							

REQUIREMENTS DOCUMENT: DA message 032045Z Jan 84.

TYPE CLASSIFICATION:

AN/ULQ-19 RACJAM IS A FULLY AUTOMATIC, MOBILE, RESONIVE VHF JAMMER CAPABLE OF AUTOMATICALLY DETECTING AND JAMMING SIGNAL ACTIVITY ON ANY 1 OF 16 PRE-SELECTED TARGET CHANNELS.

SMD

AN/USD-9, GUARDRAIL V (GRV)

PRODUCT MANAGER: Mr. Rene Acosta, DSN 992-8941  
CGM 908/532-8941

PE & LINE #: SSN: AZ2900

DESCRIPTION: GRV is an airborne Communications Intelligence (COMINT) collection and Direction Finding (DF) system. AN/USD-9 is composed of: airborne collection platforms (RU-21H); a ground processing facility; data link; Tactical Commanders Terminals (ICT); and auxiliary ground equipment. GRV systems comprised of six aircraft are deployed in the Aerial Exploitation Battalion (AEB) of Corps MI Brigades. GRV is a fifth generation intelligence collection system using an Ultra High Frequency (UHF) data link to remotely control mission functions on aircraft from the ground-based Information Processing Facility (IPF) where mission analysis and reporting are accomplished. GRV provides near real-time information to Tactical Commanders via the TCT. MIBNLI Corps GRV system has been equipped with a remote relay capability to permit the aircraft to operate overseas while the ground facilities remain in CONUS. Improved GUARDRAIL V (IGRV) was a product improvement with new electronics, microwave data links and modified aircraft. These systems are deployed to V Corps and VII Corps. The GUARDRAIL Common Sensor (GR/CS) will replace both the GRV and IGRV systems. When GR/CS is fielded, GRV systems will be redeployed to other active and reserve component commands or retired.



#### HISTORICAL BACKGROUND:

Jun 76 - Contract award.  
Sep 81 - GRV System 3 transferred to XVIII Airborne Corps.  
May 86 - GRV System 1 refueled to III Corps.  
Oct 89 - GRV System 2 fielded to MIBNLI, Orlando, FL.  
Feb 91 - Transitioned from PM, FW/RSTA to Level II.  
Oct 92 - GRV System 1 retired from Army Inventory.

#### EVENT SCHEDULE:

FISCAL YEAR	93	94	95	96	97	98	99
QTR	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
GRV DISPLACED FROM III CORPS BY IGRV	!						
GRV DISPLACED FROM XVIII CORPS BY GR/CS AND RETIRED FROM ARMY INVENTORY		!					

REQUIREMENTS DOCUMENT: GRV requirement approved 1975.

TYPE CLASSIFICATION: Standard A approved 15 Nov 80.

GRV IS AN AIRBORNE COMINT COLLECTION AND DF SYSTEM.

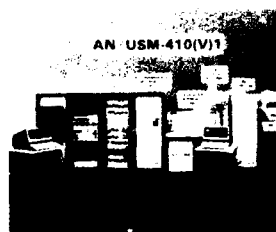
SMD

AN/USM-410, ELECTRONIC QUALITY ASSURANCE TEST EQUIPMENT  
(EQUATE)

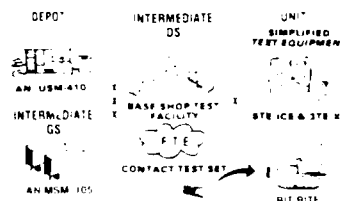
PROJECT MANAGER: Ed Leary, DSN 992-6052  
COMM 908/532-6052

PE & LINE #: T61973, R09696

DESCRIPTION: The AN/USM-410 is a stand-alone, computer controlled Automatic Test system providing diagnostic, analog, digital and hybrid test and repair capability at GS and depot levels to numerous weapons systems (e.g., MLRS, BFVS, TACFIRE, FIREFINDER). AN/USM-410(V)2 is the primary testing resource in the AN/MSM-105(V)1 field, transportable, electronic test and repair system. AN/USM-410(V)4 was developed for use within the Electronic Equipment Test Facility (EETF), providing Aviation Intermediate Maintenance (AVIM) support to the APACHE Attack Helicopter. Non-tactical versions of the AN/USM-410 are used in depot and contractor facilities for Test Program Set development, production and repair.



OBJECTIVE ATE SUPPORT SYSTEM



HISTORICAL BACKGROUND:

- Aug 78 - Type Classified Limited Procurement authorization for 41 MSM-105s by Special IPR (SIPR).
- Dec 79 - AN/MSM-105 designated by DARCOM to fulfill GS/Depot Automatic Test Equipment (ATE) requirement.
- Mar 80 - Letter IPR authorized 17 more AN/MSM-105s.
- Jun 83 - Initial Operational Capability (USAREUR).
- Jul 91 - EETF Type Classified.
- Jul 92 - ECP-185 Materiel Release Approved.
- Jan 93 - ECP 185 Field Retrofit for EETF Complete.

EVENT SCHEDULE:

FISCAL YEAR	93	94	95	96	97	98	99
QTR	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
EETF/ECP-185 PRODUCTION & FIELDING	1						

REQUIREMENTS DOCUMENT: Required Operational 22 Feb 80.

TYPE CLASSIFICATION: Standard approved May 82 for AN/USM-410(V)1 and AN/USM-410(V)3; Limited Procurement for the AN/USM-410(V)2, OQ-290(V)1, and OA-8991/MSM approved May 82. The AN/USM-465A Digital Card Tester Type Classified 12 Jan 93.

AN/USM-410 IS A GENERAL PURPOSE FAMILY OF COMPUTER CONTROLLED ATE USED FOR TEST, DIAGNOSIS AND REPAIR OF ELECTRONIC LINE REPLACABLE UNIT, SHOP REPLACABLE UNIT, AND PRINTED CIRCUIT BOARDS CONTAINED IN NUMEROUS WEAPONS SYSTEMS.

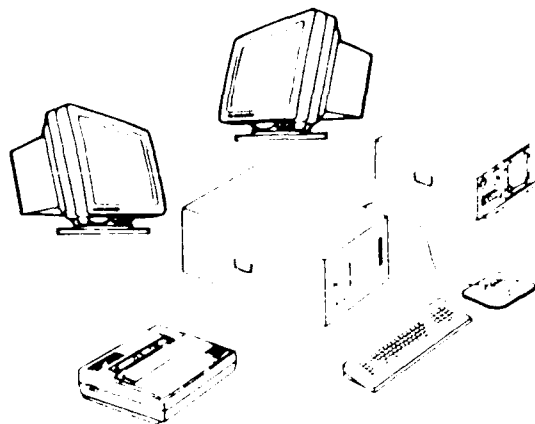
SMD

AN/USK-71A, FORSCOM AUTOMATED INTELLIGENCE SUPPORT SYSTEM  
(FAISS)

PROJECT OFFICER: Mr. Michael A. Trivisano, DSN 992-5108  
COMM 908/532-5108

PE & LINE #: LIN 776367

DESCRIPTION: The FAISS is a stand alone microcomputer designed for use by tactical analysts and supervisors at all echelons to speed the intelligence process. It is a system of interconnected software automation tools, processes, and supporting procedures used to enhance FORSCOM's Intelligence and Electronic Warfare mapping, charting, and meteorological support mission responsiveness. It is fielded as an upgrade to MICROFIX.



HISTORICAL BACKGROUND:

Nov 87 - Joint Army/Air Force procurement.  
Sep 88 - First fielding to the Air Force.  
Jul 89 - First Army fielding.  
Oct 91 - CECOM awarded ILS contract to TAMSCO.

EVENTS SCHEDULE:

FISCAL YEAR	93	94	95	96	97	98	99
QTR	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
TYPE CLASSIFICATION							
TRANSITION TO LEVEL III MANAGEMENT							

REQUIREMENTS DOCUMENT: CINC FORSCOM Initiative, 8 Feb 90.

TYPE CLASSIFICATION:



SMD

MANEUVER CONTROL SYSTEM (MCS)

AN/UYQ-43(V)1 TACTICAL COMPUTER PROCESSOR (TCP) - NDI

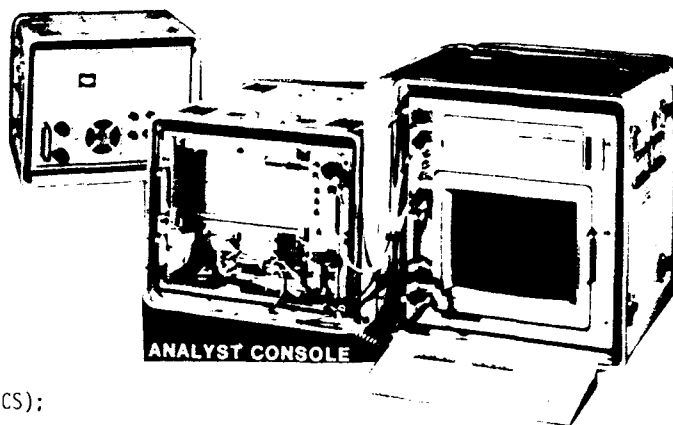
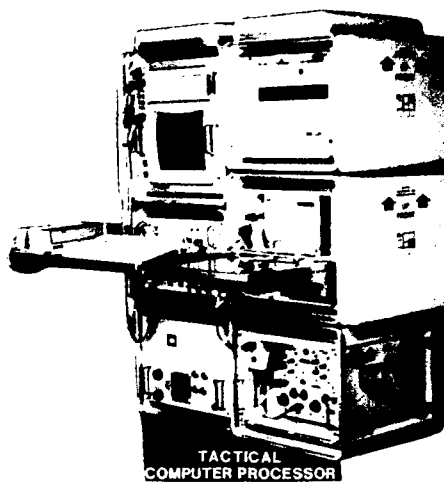
AN/UYQ-43(V)2 ANALYST CONSOLE (AC)

PROJECT OFFICER: Mr. Alfred Trapanese, DSN 992-2940  
COMM 908/532-2940

PE & LINE #: SSN: BA-9300

DESCRIPTION: The MCS is a collection of computer equipment which supports operations planning and control at one of the five nodal points (Maneuver Control) of the Army Command and Control System (ACCS). It is designed to assist the commander and his staff by providing information on his own forces, enemy forces and the battlefield characteristics. MCS provides this battlefield information by collecting, processing, and displaying data generated within the air/land combat environment. Using the features of this system the commander can improve the timeliness of his decisions and allocation of his resources.

The MCS currently consists of Tactical Computer Processors and Analyst Consoles. The Tactical Computer Processor, AN/UYQ-43(V)1, is a micro-processor based portable system which provides automated assistance to the maneuver commanders. The Analyst Console, AN/UYQ-43(V)2 is a micro-processor based intelligent terminal, connected to the TCP via Local Network, which provides multiple workstations within a nodal configuration. MCS takes advantage of commercial state-of-the-art technology by more readily fielding the commercial hardware NDI.



HISTORICAL BACKGROUND:

Jun 87 - Awarded NDI contract.  
Jul 87 - Awarded system engineering and integration contract (MCS);  
Full production (TCT).  
Oct 87 - Awarded MCS software contract.  
Jul 90 - Last unit produced.  
Oct 92 - Last unit fielded.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1				2				3				4				1				2			
UPGRADE SEG 10 SOFTWARE																												
UPGRADE EQUIPMENT																												
AWARD MAINTANFNCE CONTRACT																												

REQUIREMENTS DOCUMENT: O&O Plan (TCT & NDI) and ROC approved (TCT & NDI) Jul 82; ROC update Jun 88.

TYPE CLASSIFICATION: TCP, AN/UYQ-43(V)1 and AC, AN/UYQ-43(V)2 Type Classified Standard, at IPR, Jun 86.

MCS IS AN AUTOMATED COMMAND AND CONTROL SYSTEM.

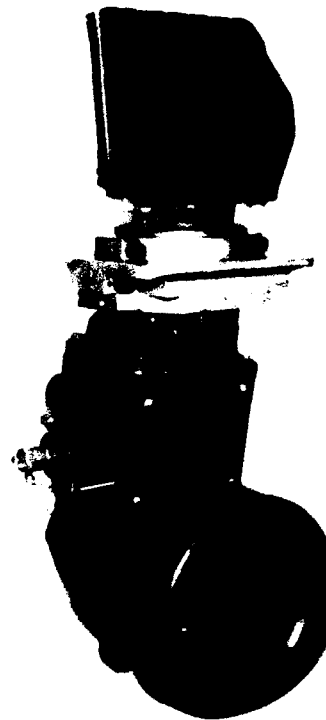
SMD

AN/VVS-2, DRIVERS VIEWER

PROJECT OFFICER: Mr. Anthony Anania, DSN 992-5271  
COMM 908/532-5271

PE & LINE #: (Stock funded)

DESCRIPTION: The Drivers Viewer enables a closed hatched vehicle to be driven under night conditions without active illumination. The area viewed is presented as a green image display. It is lightweight enough to be installed from within the vehicle and can be manually rotated from between 30° to 45° depending on the vehicle in which it is to be mounted. Drivers Viewer is presently being installed in the Bradley, M1 and M60 Tanks. Future plans also include purchase of AN/VVS-2 for M113 and M109 vehicles. Fielding is one per tracked vehicle. This system will be replaced or supplemented in the M1A2 and M2/M3 vehicles by the Drivers Thermal Viewer.



HISTORICAL BACKGROUND:

1976 - NVEOC first Production contract award.  
1978 - First Unit Equipped.  
1985-1989 - Five-year OMNIBUS I contract awarded ITT/Varo.  
1990-1992 - Three-year OMNIBUS II contract awarded to IMO/VARO.  
Aug 92 - Transition from PM, NVED to CECOM Level II Management.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QIR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
OMNIBUS I: PRODUCTION																												
AN/VVS-2(V)4 PRODUCTION																												

REQUIREMENTS DOCUMENT:

TYPE CLASSIFICATION: Standard approved FY77.

AN/VVS-2 ENABLES A CLOSED HATCH VEHICLE TO BE DRIVEN UNDER DARK NIGHT AND STARLIGHT CONDITIONS WITHOUT ACTIVE ILLUMINATION.

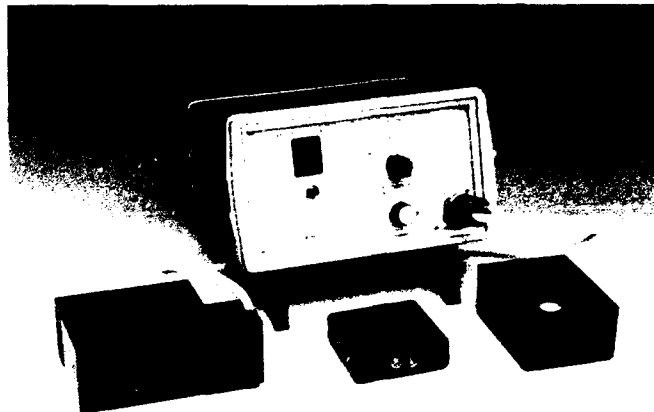
SMD

TS-4403A/U TEST SET, BATTERY

PROJECT MANAGER: Mr. William Schlosser, DSN 992-8941  
COMM 908/532-8941

PL & LINE #:

DESCRIPTION: The TS-4403A/U Test Set is a device that measures charge remaining in Lithium/Sulfur dioxide batteries, specifically the BA-5588/U, BA-5590/U, and BA-5598/U high cost, highly consumed batteries. TS-4403/U is a non-developmental item being procured from Chemtronics Limited, Yehuda, Israel. Due to the extensive use of lithium batteries, the test set is able to reduce operating costs and battery requirements of its users. This is a Common Table of Allowance (CTA) item, not Table of Organization and Equipment (TO&E).



HISTORICAL BACKGROUND:

Dec 91 - Requirements contract awarded for 400 units with initial delivery order of 51.  
May 92 - Contract modified to incorporate test capability for BA-5588/U.  
Dec 92 - Delivery Order placed for additional 51 testers.  
Mar 93 - Delivery Order placed for 201 testers for PM SINGGARS.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
DELIVERY																												

REQUIREMENTS DOCUMENT: FORSCOM Operational Needs Statement, Nov 89.

TYPE CLASSIFICATION: Standard approved 4QFY92.

TS-4403A/U TEST SET IS A DEVICE THAT MEASURES CHARGE REMAINING IN LITHIUM/SULFUR DIOXIDE BATTERIES, SPECIFICALLY BA-5590/U, BA-5598/U, AND BA-5588/U.

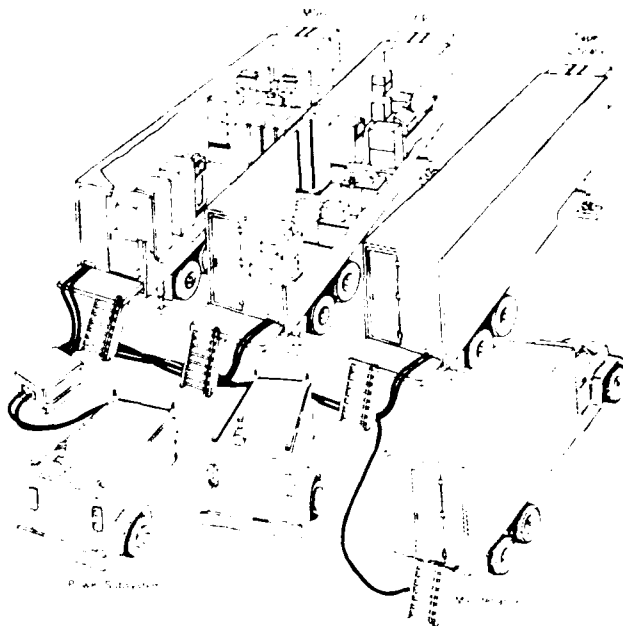
SMD

CORPS/THEATER ADP SERVICE CENTER I (CTASC-I)

PROJECT MANAGER: Ms. Rosemarie LaMacchia, DSN 992-6052  
COMM 908/532-6052

PE & LINE #: Z25526, Z62937, Z38296, Z41595, Z50481

DESCRIPTION: The CTASC-I is a mobile Automatic Data Processing (ADP) system supporting Combat Service Support applications at Corps and Theater levels. CTASC I supports Standard Army Management Information systems automating personnel, financial and logistics management functions. CTASC-I is composed of a self-contained complex of three semi-trailer vans housing the central processing unit, mass storage units and tape library facilities. The system is also fielded with a maintenance van and two 100 kilowatt generators.



HISTORICAL BACKGROUND:

Feb 80 - O&O Approved.  
May 80 - HQDA Procurement Decision Memorandum.  
Nov 82 - Contract awarded to IBM for seven systems.  
Sep 83 - First Unit Equiped.

REQUIREMENTS DOCUMENT: DA directed Procurement.

TYPE CLASSIFICATION: Limited Procurement-Urgent approved Jun 82.

CTASC I IS A MOBILE ADP SYSTEM SUPPORTING COMBAT SERVICE SUPPORT APPLICATIONS AT CORPS AND THEATER LEVELS.

SMD

CORPS/THEATER ADP SERVICE CENTER-II (CTASC-II)

PROJECT MANAGER: COL Charles B. Giasson, DSN 655-4583  
COMM 703/805-4583

PRODUCT MANAGER: LTC Albert Arnold, DSN 655-4583  
COMM 703/805-4583

PROJECT OFFICER: Mr. Tom Hessling, DSN 992-5312  
COMM 908/532-5312

PE & LINE #: Z81820

DESCRIPTION: The CTASC-II system provides the Army with transportable ADP information systems employed by major subordinate commands at corps and theater levels. The system provides and processes logistical and medical Standard Army Management Information System (STAMIS) software at corps and echelons above corps (EAC). It is organic to the Materiel Management Center (MMC); Theater Medical Materiel Management Center in the Medical Command (MEDCOM); and, the Medical Supply Optical and Maintenance Battalion (MEDSOM). It also exchanges information with other information systems. CTASC-II consists of commercial off-the-shelf computers and communications equipment housed in rigid-wall shelters transported by three Commercial Utility Cargo Vehicles (CUCVs).



HISTORICAL BACKGROUND:

PHASE I - PROOF OF PRINCIPLE:

- 3QFY87 - DA Milestone 0.
- 2-4QFY87 - Prototype Development - mock-up.
- 1-3QFY88 - Prototype Development - sheltered system.
- 3QFY88 - Technical Feasibility Test 1.
- 4QFY88 - Early User Test and Evaluation; DA Major Army Information System Review Council (MAISRC) Milestone I/II).

PHASE II - PRE-PRODUCTION PROVE-OUT:

- 4Q88-2Q89 - Technical Feasibility Test 2.
- 1QFY90 - Pre-Production Prove-Out Testing.
- 3QFY90 - First Unit Equipped - Block I Hardware.
- 4QFY90 - Maintainability Demonstration; TAMMIS Milestone III; Limited Production TAMMIS/ODS.
- 4QFY91 - Executive Software Acceptance Test; Physical Configuration Audit on Technical Data.
- 1-2QFY92 - SARSS Software Acceptance Test (post-ODS).

EVENTS SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR																											
FIELDING																												
TRANSITION																												

REQUIREMENTS DOCUMENT: O&O, 19 Dec 89; ROC, 6 Feb 91.

TYPE CLASSIFICATION:

CTASC-II SYSTEM PROVIDES THE ARMY WITH TRANSPORTABLE ADP INFORMATION SYSTEMS TO BE EMPLOYED BY MAJOR SUBORDINATE COMMANDS AT CORPS AND THEATER LEVELS.

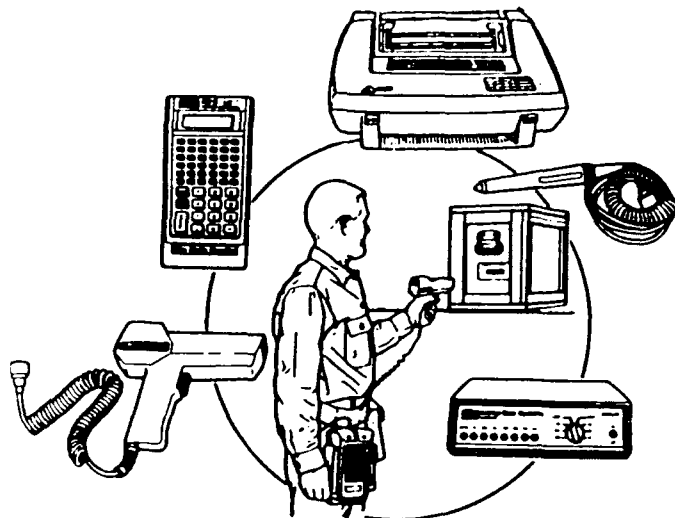
SMD

TACTICAL LOGISTICS APPLICATIONS OF AUTOMATED MARKING  
AND READING SYMBOLS - LOGMARS (T)

PROJECT OFFICER: Mr. Tom Hessling, DSN 992-5312  
COMM 908/532-5312

PE & LINE #: Z09000, Z09001, Z09002, Z27679, Z50144

DESCRIPTION: The LOGMARS (T) is a project designed to integrate standard machine readable symbology (three of nine bar code) into the various Army echelons employing PEO STAMIS (Standard Army Multicommand Management Information Systems) hardware and software for the preparation of source data automation of logistics functions. Present plans call for the acquisition of off-the-shelf hardware consisting of the following equipment; portable bar code reader/scanner, bar code printers and modems. Different users will receive different configurations of this equipment. This is a PM TACMIS/AIT managed program.



HISTORICAL BACKGROUND:

Nov 83 - FY86-90 OPA requirements submission to HQDA began; Draft Market Survey completed.  
Sep 86 - Contract award to Syscon Corporation.  
Mar-Jun 87 - Initial Key Personnel and sustainment training.  
Sep 87 - First Unit Equipped.  
Mar 90 - ECP for thermal printer approved; Full Materiel Release granted to LOGMARS (T).  
Dec 92 - Type Classified Standard.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
CONTRACT AWARD AIT					!																							
TRANSITION - LOGMARS (T)									!																			

REQUIREMENTS DOCUMENT: Final ROC was approved by DA, Aug 85.

TYPE CLASSIFICATION: Generic Type Classification of specification, Jun 86, Standard, Dec 92.

LOGMARS (T) IS AN AUTOMATED SYSTEM TO INTEGRATE STANDARD MACHINE READABLE SYMBOLOGY FOR MARKING AND READING SYMBOLS INTO THE STANDARD ARMY MULTI-COMMAND MANAGEMENT INFORMATION SYSTEMS.

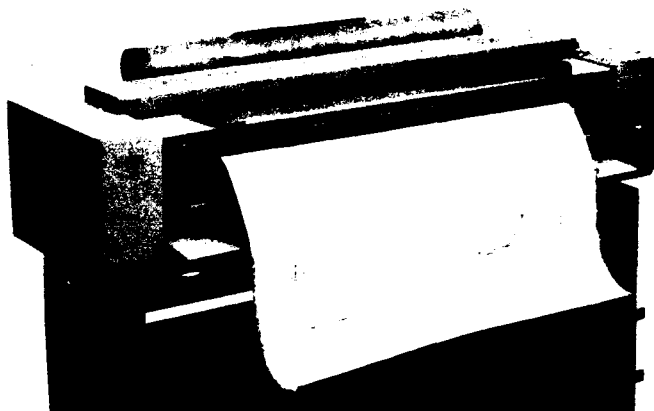
SMD

LARGE-SCALE TACTICAL DOCUMENT COPIER

PROJECT MANAGER: Ms. Nancy Brady, DSN 992-5271  
COMM 908/532-5271

PE & LINE #:

DESCRIPTION: The Large-Scale Tactical Document Copier program was initiated as a result of direction from the Battle Command Integration Program General Officer Steering Committee to field a non-developmental item (NDI) copier capable of reproducing large documents up to 36 inches in width. This copier reproduces large documents such as battle maps and mission overlays which are required to coordinate battlefield activities. A ruggedized case is provided to transport the copier and associated support items for field deployment. This item has been approved for Common Table of Allowance (CTA) distribution.



HISTORICAL BACKGROUND:

Jan 88 - III Corps identified a need for a tactical large-scale copier.  
Apr 88 - CACDA tasked SIGCEN to identify NDI copier to meet mission needs.  
Aug 90 - General Officer Steering Committee directs expeditious completion of copier testing and fielding activities.  
Mar 91 - CECOM TAC completes testing on Xerox copier.  
Feb 92 - Program management responsibilities transferred to SMD to direct copier acquisition and fielding activities.  
Jun 92 - Contracts awarded for copier and associated support components.

EVENTS SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
COPIER TRANSFERS TO DLA FOR MANAGEMENT						!																						

REQUIREMENTS DOCUMENT: General Office Steering Committee Directs 2510 copier for fielding Aug 90.

TYPE CLASSIFICATION:

THE LARGE-SCALE TACTICAL DOCUMENT COPIER IS A COMMERCIAL COPIER CAPABLE OF BEING DEPLOYED TO REPRODUCE BATTLE MAPS AND MISSION OVERLAYS.

SMD

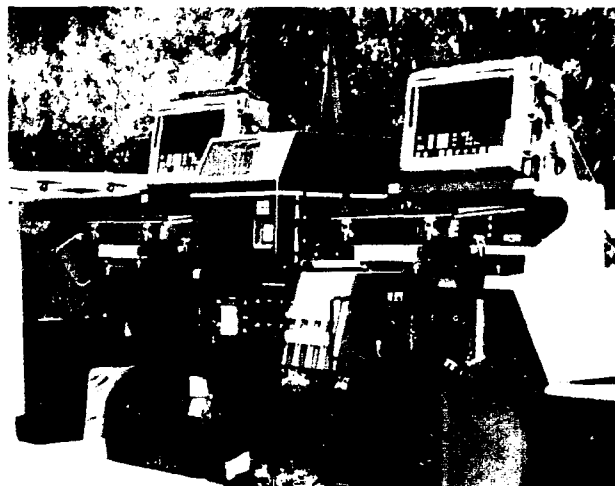
## LIGHTWEIGHT TACTICAL FIRE DIRECTION SYSTEM (LTACFIRE)

PROJECT OFFICER: Mr. Ed Marcinkiewicz, DSN 992-6055  
COMM 908/532-6055

PE & LINE #: 5212

DESCRIPTION: The LTACFIRE is designed to provide a light-weight, transportable and user friendly automated fire support system, for use within the light infantry divisions (LID). A prototype system was fielded to the 9th Infantry Division at Ft. Lewis, WA in 1985 under the experimental test bed concept. Fielding to the seven LIDs began in Sep 90 and was completed Jan 92.

LTACFIRE provides the Division Artillery (DIVARTY) of the light division a fully automated means to plan, control and execute fires of field artillery and mortars. Computer terminals are located at artillery battalion, DIVARTY, and Division Fire Support Element and Brigade FSE nodes. Communications between nodes and with a variety of interfacing devices is accomplished via communications means already available to the light infantry division. LTACFIRE functions are designed to automate the current manual techniques used in the light infantry's artillery battalions and DIVARTY. These include non-nuclear fire planning; tactical fire control; ammunition and fire unit data; meteorological data, artillery target intelligence and support/geometry information.



### HISTORICAL BACKGROUND:

Oct 82 - Quick Reaction Program, QRP-2-32.  
Dec 87 - Congress mandated obligation of FY86 OPA funds for procurement of LTACFIRE for the Light Divisions;  
Mar 88 - Letter contract awarded to Litton Data Systems.  
Sep 90 - FUE.  
Feb 92 - Last unit equipped.

### EVENT SCHEDULE:

FISCAL YEAR	93	94	95	96	97	98	99
QTR	1234	1234	1234	1234	1234	1234	1234
PDSS/CLS CONTRACT AWARDED		!					
AFATDS BEINGS REPLACING LTACFIRE					!		

REQUIREMENTS DOCUMENT: QRP-2-32, Dec 87, HQDA directed that FY86 funds be used to procure LTACFIRE for seven light divisions.

TYPE CLASSIFICATION: Type Classification requirement waived.

LTACFIRE IS DESIGNED TO PROVIDE A LIGHTWEIGHT TRANSPORTABLE AND USER FRIENDLY AUTOMATED FIRE SUPPORT SYSTEM FOR USE WITHIN THE LIGHT INFANTRY DIVISION.

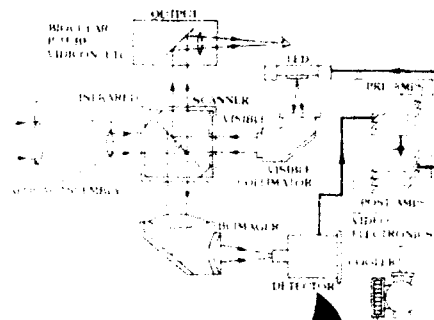


NIGHT VISION INFRARED COMMON MODULES

SUBJECT OFFICER: Mr. Anthony Anania, DSN 992-5271  
COMM 908/532-5271

PE & LINE #:

DESCRIPTION: The Night Vision Common Modules form the basic building blocks for many of the Army's Far Infrared Night vision Systems such as the AH-64 Apache; Target Acquisition Designation Sight/Pilots Night Vision Sensor (TADS/PNVS); M1 Abrams, Thermal Imaging System (TIS); M60A3, Tank Thermal Sight (TTS); Bradley Fighting Vehicle, Integrated Sight Unit (ISU); and the Manportable Common Thermal Night Sights (MCINS). There are currently close to 40 different Common Modules fielded which fall into one of the following four major categories: Mechanical, Optical, Signal Conversion, and Electrical. The common modules are procured with Stock Funds Depot Repairable and are removed/replaced at General Support level. Configuration management is maintained by CECOM Night Vision/Electronic Sensors Directorate. Most of the technical data packages are fully competitive with some prequalification requirements for certain modules due to the state of the art technology.

HISTORICAL BACKGROUND

- 1974 - Joint Logistics Commanders agree upon a Tri-Service policy of using Common Modules for Forward Looking Infrared (FLIR) development.
- 1976 - DT-591/UA Detector/Dewar accepted as a Common Module.
- 1978 - First Unit Equipped DT-591, DT-617, DT-594.
- 1984 - Initiation of Optical Improvement Program by CECOM Night Vision and Electro-Optics Directorate.
- 1989 - Night Vision and Electro-Optics Directorate approves First Article Test for Optically Improved Detector/Dewars.
- 1993 - PM Abrams approves DT-636 for use in M1 tank.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
COMMON MODULE PRODUCTION *																												

- \* Common Modules are Stock Funded spares. Intermittent production contracts for end item requirements well into next century.

REQUIREMENTS DOCUMENT: Required Operational Capability established at End Item Application/System.

TYPE CLASSIFICATION: Each Common Module has been Type Classified Standard.

NIGHT VISION COMMON MODULES FORM THE BASIC BUILDING BLOCKS FOR MANY OF THE ARMY'S FAR INFRARED NIGHT VISION SYSTEMS.

SMD

REGENCY NET SYSTEM (RN)

PROJECT OFFICER: Mr. Charles Spinner, DSN 992-2940  
COMM 908/532-2940

PE & LINE #: BB-8422

DESCRIPTION: The RN System is a Tri-Service program. An NDI acquisition to provide USCINCEUR with an independent, agile, survivable, fully supportable HF C3 System. Having secure data and voice communications, and capable of operating in a wartime environment. The AN/TRC-179(V)1 Force Terminal is the primary element of the RN architecture, housed in an S-711(B) shelter. Additional major items include the: AN/TRC-179(V)3, split-sight; the AN/GRC-215 Team Terminal; and the PU-794(G) Generator Set.

HISTORICAL BACKGROUND:

May 79 - ASDC31 assigned Army as lead service.  
May 87 - Competitive solicitation awarded to Magnavox Corp.  
Dec 91 - Decision from DISC4 to PEO COMM.  
Apr 92 - Conditional Materiel Release approved.  
Jun 92 - Deployment of RN to CINCEUR initiated.  
Sep 92 - RN project transitioned to USACECOM.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
FULL MATERIEL RELEASE																												
PROTOTYPE NETWORK MGMT EQUIPMENT DEPLOYED										!																		
FULL-UP NETWORK MGMT EQUIPMENT DEPLOYED											1																	

REQUIREMENTS DOCUMENT: Baseline Requirements Document Validated by JCS - Apr 83.

TYPE CLASSIFICATION: Standard approved 13 Apr 93.

## Regency Net Survivable HF



REGENCY NET HAS REPLACED THE CEMETARY NET SYSTEMS IN EUROPE.

SMD

TACTICAL ARMY COMBAT SERVICE SUPPORT COMPUTER SYSTEM (TACCS)

PROJECT OFFICER: MAJ John Spiller, DSN 992-5107  
COMM 908/532-5107

PE & LINE #: C72396 C72626  
C08565 C72876

DESCRIPTION: The TACCS is an off-the-shelf ruggedized, two-man transportable computer and software system to be used on the battlefield at Company level and above. The basic TACCS will include a central processing unit, random access mass storage, printer, visual display, keyboard entry device, communications interface, and the capability to both archive the mass storage and electronically transfer data between work stations. The system is operated by military personnel of various grades and ADP skill levels and by functional people with no computer programmer training. It provides support to personnel, supply, maintenance, medical, ammunition, and transportation functional areas. TACCS will interface with DAS-3, TCS, and TCT.



HISTORICAL BACKGROUND:

Sep 84 - Production contract award.  
May 85 - First Unit Equipped; First Article Test began.  
Jul 90 - ECP approved by DA to upgrade the system processor and software (TACCS-E).  
Jan 91 - Completed delivery of basic TACCS Box under existing contract.  
Mar 91 - Full Materiel Release granted to TACCS Program; Fielding of TACCS-E retrofit began.  
Oct 92 - TACCS program transitioned from PM TACMIS to CECOM.

EVENT SCHEDULE:

FISCAL YEAR	93	94	95	96	97	98	99
	QTR 1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
TRANSITION FROM PM TACMIS TO CECOM	1						

REQUIREMENTS DOCUMENT: USA TRADOC ACN ROC, 82.

TYPE CLASSIFICATION: Limited Production, with full production decision by MAISRC approved Oct 86. Standard approved Nov 90.

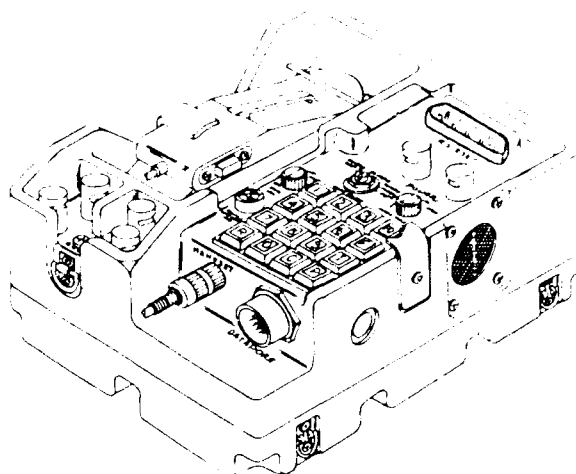
TACCS IS A TRANSPORTABLE COMPUTER AND SOFTWARE SYSTEM PROVIDING SUPPORT TO THE PERSONNEL, SUPPLY, MAINTENANCE, MEDICAL, AMMUNITION AND TRANSPORTATION FUNCTIONAL AREAS. TACCS-E IS A MODIFIED/UPDATED VERSION OF THE TACCS WHICH UTILIZES THE INTEL 80386 PROCESSOR AND RTOS 2 FOR AN OPERATING SYSTEM.

SMD

TACTICAL TERMINAL ADAPTER (TTA)

PROJECT MANAGER: Mr. Mark DiPaola, DSN 992-5271  
COMM 908/532-5271

DESCRIPTION: The TTA is an interface device which enables any Personal Computer (PC) with the DOS operating system and an RS-232C port to transmit/receive data over the Mobile Subscriber Equipment (MSE) circuit-switch (voice) or packet switching (data) networks. The TTA emulates the functionality of a Digital Non-Secure Voice Terminal (DNVT) in order to transmit/receive data over the MSE circuit switch network. The ability of the TTA to transmit/receive data over the MSE packet network is achieved through the incorporation of X.25 communications protocol software. The TTA is available in both a ruggedized and non-ruggedized version and is authorized for Army-wide distribution via Common Table of Allowance (CTA) 50-909.



HISTORICAL BACKGROUND:

Jun 92 - Sole Source Procurement of 1100 TTAs from Star Dynamic Corporation.  
Jan 93 - SMD assumes Program Management from PM, TACMIS.  
Feb 93 - SMD issues user survey for identification of TTA requirements.  
Apr 93 - HQDA approves TTA for inclusion into Common Table of Allowances (CTA) 50-909.

EVENT SCHEDULE:

FISCAL YEAR	93				94				95				96				97				98				99			
	QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3
PROGRAM TRANSITION TO SMD		!																										
USER SURVEY ISSUED		!																										
CTA APPROVAL		!																										
PRODUCTION CONTRACT AWARD						!																						
FIELDING						!																						

REQUIREMENTS DOCUMENT:

TYPE CLASSIFICATION:

THE TTA PROVIDES THE CAPABILITY TO INTERFACE PERSONAL COMPUTERS TO THE MOBILE SUBSCRIBER EQUIPMENT IN ORDER TO TRANSMIT/RECEIVE DATA.

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